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WILDLIFE IN NORTH CAROLINA

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A fat bluegill, a cricket cage, some bobbers and a rod are just some of the ingredients for summer fishing in the style many of us knew as children.

PHOTOGRAPH BY JIM DEAN.

Volume 76 | Number 4

WILDLIFE IN NORTH CAROLINA

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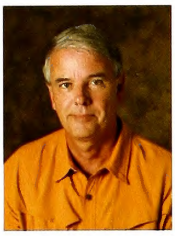
Cover: Its spines are devilishly painful, but the prickly pear is a common plant near the coast and is our native species of cactus.
PHOTOGRAPH BY MELISSA McGAW/NCWRC.

Wildlife in North Carolina is the official educational publication of the North Carolina Wildlife Resources Commission. It is dedicated to the sound conservation of North Carolina's wildlife and other interrelated natural resources and also to the environment we share with them.



EDITOR'S NOTE

A few weeks ago as I drove away from Pilot Mountain on N.C. 52, from the corner of my eye, I spotted movement in a field just south of town. Since Surry County has a fair number of wild turkeys, I made an immediate and incorrect assumption as to the identity of the creatures in the low grass. On second look, the birds were not turkeys, but Canada geese.

MELISSA McGAW/NCWRC

Two gas stations, a self-storage complex and a fast-food restaurant sat within a couple of hundred yards. Farther south, loomed Pilot Mountain itself, an ancient quartz monadnock. And there, between the old and the new, the majestic and the prosaic, the geese grazed.

No sound captures the essence of wild like the honking of Canada geese on the wind. These Pilot Mountain geese, however, were not migratory geese who return to North Carolina each year from locales far to the north of us, such as Ungava Bay in Canada. These were resident Canadas, and their travels, with the exception of molt migrations, probably include nothing more exotic than flights to Pinnacle, King or Tobaccoville.

Our resident population of Canada geese is a relatively new phenomenon that began when state agencies, faced with diminishing numbers of migratory geese, began stocking Canadas in the late 1980s. But the stocked birds were of a different subspecies, *Branta Canadensis maxima*, one that does not have a strong migratory instinct.

As the number of migratory geese fell, that of resident birds rose to the point that many people view them as pests. Lawn carp is one of the pleasanter terms used to describe them. For me they are, like white-tailed deer, supremely successful wild creatures.

In my neighborhood, I see the resident Canadas nearly every day, traveling mostly by foot from pond to golf course and back. Sometimes at dusk, I hear them in flight, their honking just as wild, at least in my ears, as a bird from the North. Perhaps that sound awakens memories of geese in the mist on a cold morning. As Aldo Leopold wrote, when I hear geese in the wind, I cock my ear to that sound, wondering.

Jim Wilson

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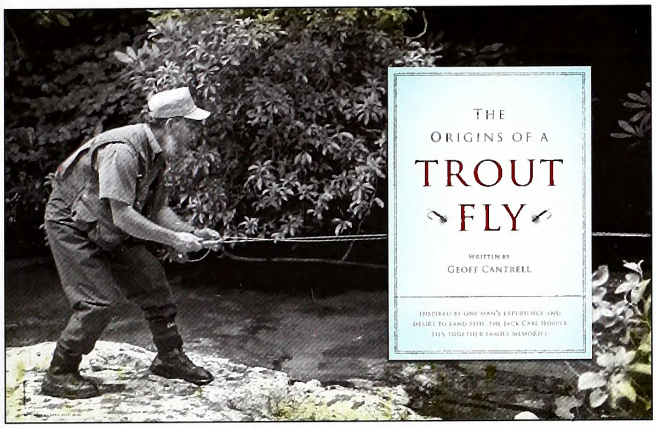

Fly Ambassador

Thanks to Geoff Cantrell for the article on the Jack Cabe Hopper in your March/April issue ("The Origins of a Trout Fly"). I got to know Jack Cabe years ago and fished with him on numerous occasions. He was among the best fishing guides, if not the very best, I have ever known. I watched the evolution of his fly and had success with it in our local waters.

After Jack died an untimely death, I used to put the fly on wherever I went to fish in Jack's memory. It proved to be so productive in so many places that it is now my favorite fly. It is becoming famous. I have personally introduced it in Alaska, Argentina and Labrador and have given hundreds of them to friends. It is now even available on the Internet!

W. Stell Huie
Highlands

Part of the Family

I grew up in the far western part of Harnett County next to what is now Fort Bragg's Northern Training Area, or NTA for short. As a youngster, these thousands of acres of land belonged to the Weyerhaeuser Corporation, and not unlike Robert Ruark's "The Old Man and the Boy," freedom was an understatement regarding the exploring of these woods.

My first experience with your magazine came when a friend brought his copy on the school bus and we read it together. I have been hooked ever since! I have been wanting for a long time to write and thank *Wildlife in North Carolina* for all the enjoyment I have received over the past many years this publication has been coming to my home.

My parents started subscribing to the magazine for me in the early 1970s. From that point on, I have saved almost every copy. (I'm missing a few.) Last year I was very fortunate to be able to purchase an original painting from former editor and wildlife illustrator Duane Raver! I have displayed this beautiful work above my fireplace with four framed magazines that included my first one. September, 1972.

The richness that this publication has added to my family's and my life is priceless. To prove this, I have purchased lifetime sportsmans licenses for both of my grandsons. As they grow, this will afford me the opportunity to enjoy North Carolina's abundant natural resources.

As a sportsman here in North Carolina, I am proud to say that the efforts of the NCWRC can be seen clearly across our state, such as healthy deer, turkey and rabbit populations, not to mention a multitude of other things. It makes me feel good to see my contribution at work in such a visible way! *Wildlife in North Carolina* has played — and continues to play — a vital part in the success of impacting the environment and wildlife resources. Again, thank you *Wildlife in North Carolina*!

Max Hardwick
Cameron

Scorching Tale

I just read the lightning article in the May/June issue, and I, like a lot of people, have a lightning story. One summer in the 1960s, lightning struck a big tulip poplar tree on my Granddad's farm. A barbed wire fence nailed to the poplar was melted into 6-inch pieces for several feet up the fence. The lightning ran up the fence about a hundred yards to a 90-degree corner, where it jumped to a one quart metal oil can on the ground beside the shop, blasting the can up between the siding and the storm sheeting.

A crosscut saw hanging on nails inside the shop was knocked 16 feet across the room, and the print of the saw was burned on the wall. A cow chain hanging beside the saw got so hot that the print of it was scorched onto the wall. And, for some reason, the shop didn't catch fire. Granddad is gone, but the shop is still standing. Drop by and I'll show you how hot lightning can get.

Roger Wilson
Asheboro

Years of Reading Remain

In regards to the changes in the magazine ... many, many years ago when my husband and I began calling North Carolina "home," he subscribed to *Wildlife in North Carolina* for me because I'm an outdoors sort of person.

After a year, he changed it to a lifetime subscription because I loved it so much, and over the years as our children came along, we read articles to them and shared it with our friends.

Last year you made the change to sending it bimonthly, which suits me just fine due to having less to carry from our mailbox. I was reading comments, and one was that we subscribers would still get our money's worth. It occurred to me that I had never looked to see when my subscription "ran out," so I looked at the date posted on the back cover and it is 2-1-2106.

I did some quick calculating and figured out that I will be 158 years old when I am sitting on the swing on our front porch enjoying my last issue of *Wildlife in North Carolina*. I do hope you will come and interview me as I'm reading and enjoying my last issue, one of your longest and best fans.

Mary Leverett
Bunn

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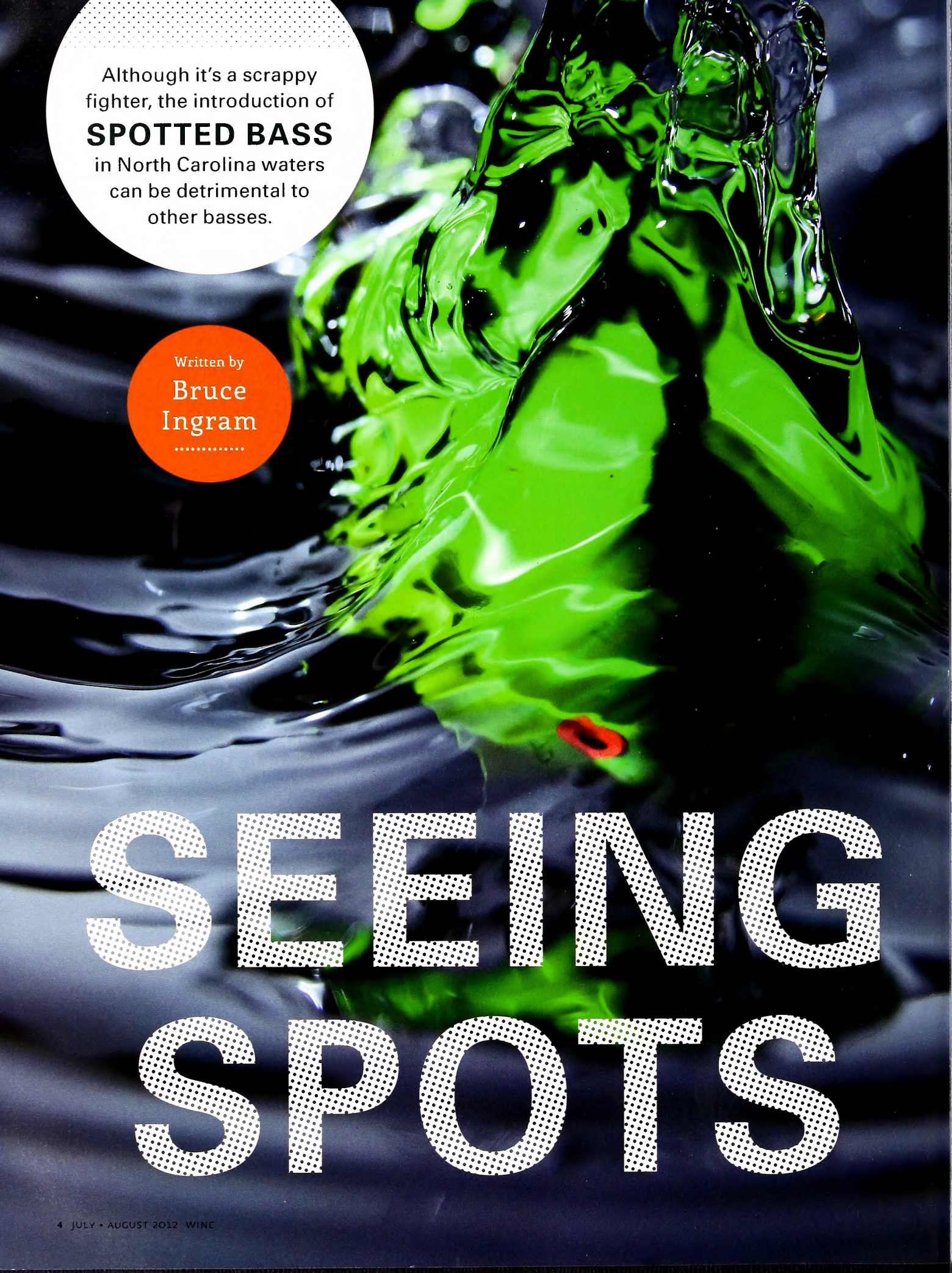


Although it's a scrappy fighter, the introduction of **SPOTTED BASS** in North Carolina waters can be detrimental to other basses.

Written by
Bruce Ingram

SEEING SPOTS

As a high school English teacher who often attempts to teach Shakespeare's "Macbeth" to young people more than a little befuddled by the language of the 1600s, I often give reading comprehension quizzes to check on my students' understanding of the lesson. I once asked the students to identify the famous quote: "Out, damned spot! Out, I say!" which, of course, refers to Lady Macbeth wishing that her hands could be free of the murdered King Duncan's blood.

A young man confidently answered that the quote was based on Mr. and Mrs. Macbeth's desire to have the family dog go outside their castle for the evening—making me realize that perhaps my students had not quite understood what was going on in the play. Similarly, I believe that some North Carolina anglers don't understand the sporty nature of the spotted bass (*Micropterus punctulatus*), as tournament fishermen often damn its maddening tendency to measure less than 12 inches. Nor do some individuals understand the danger of stocking spotted bass in bodies of water with well-established fisheries.

In keeping with the "Macbeth" theme, here are famous quotes from the play that may or may not prove that old Bill Shakespeare had the spotted bass in mind when he wrote the tragedy.

"Remains in danger of her former tooth"
"Macbeth," Act 3, Scene 2

Many Tar Heel sportsmen cannot correctly identify a spotted bass, also known as Kentucky bass. For example, once while a friend and I were floating the New River, I landed a fair-sized spot. My buddy remarked "Nice largemouth, I recently caught one about 16 inches."

Any spotted bass weighing at least 2 pounds and/or measuring 15 inches or more will qualify an individual to receive a certificate from the N.C. Angler Recognition Program. When I told my companion how his misidentification had cost him this recognition, he became very upset with himself.

The easiest (although not entirely foolproof) way to identify a spot is by a tooth patch on its tongue. Largemouths rarely possess this patch (only 1 out of every 100 to 150 fish) and smallmouths, unlike largemouths, are hardly ever confused with spots, given the brownish hue and vertical bars of the bronzeback.

Evolutionarily, is this patch the remains of a former tooth or did it come into existence as an aid to the spot in crushing such favorite foods as crayfish? I can't say, but here are ways to identify spots.

- Upper jaw extends to back of eye
- Greenish color (like a largemouth) with dark horizontal streaks
- Largest dorsal fin spine (like a smallmouth, unlike a largemouth) less than twice the length of shortest spine
- Shallow notch (like a smallmouth, unlike a largemouth) between fins
- Row of small spots below lateral line

"Upon this bank and shoal of time, we'd jump the life to come."
"Macbeth," Act 1, Scene 7

In North Carolina's Mountain and Piedmont rivers, spots typically concentrate in two types of areas. James Brady, an avid fly-fisherman from Summerfield, and Wilkes County's Marty Shaffner, who operates Tri-State Angler Guide Service, agree that on the New River, spots are likely to found against the bank in slow moving water, especially banks with wood cover. (The New River spots are only in Virginia, having come up from Claytor Lake.)

But Shaffner adds that his biggest spots (that is those between 11 and 14 inches) have come from shoal areas on the Yadkin. However, these rocky areas have been those that have lacked current, as spots are infrequently found in rapids or even riffles.

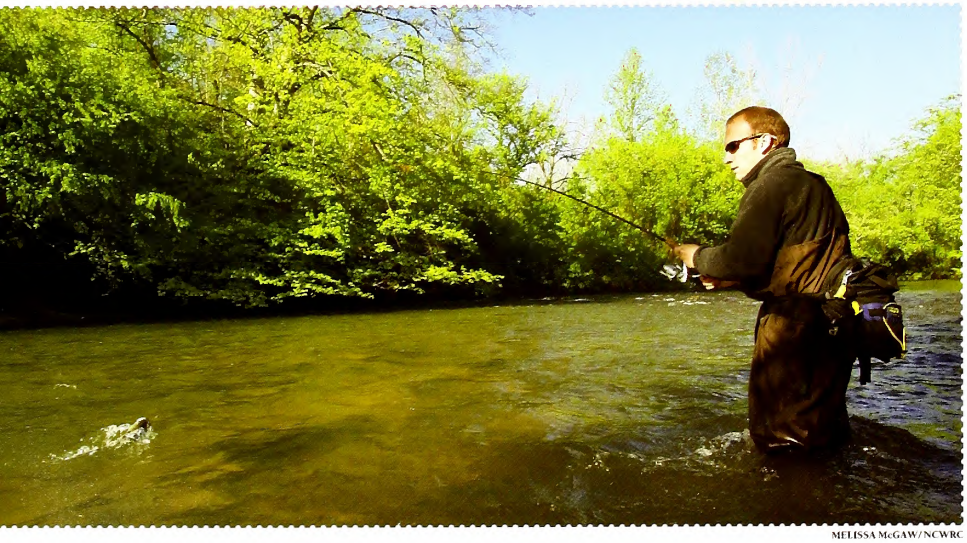
Regarding lures, Brady prefers surface flies, such as his homemade poppers, during warm weather and says that results will be better if poppers can be placed close to the shore. Shaffner likewise lists poppers as his favorite flies, including Sneaky Petes, and sizes 6 and 8 Woolly Buggers and Clouser minnows. For lures, Shaffner suggests 4-inch and 5-inch lizards, 3-inch curly tail grubs and small in-line spinners.

Captain Paul Rose operates Carolina Bonefishing and guides on Lake Norman, one of the top Carolina impoundments for spotted bass. "Lake spots can be patterned based on the areas they like to hang," he says. "If you think rocks and docks, you're in the ballpark. These combinations, plus adding in close, deep water access, is where I look for these fish. For example, a dock with one end up against riprap, with the other end in 10 feet of water, is ideal. Sloping, rocky points and humps are also great places to look."

MELISSA McGAW/NCWRC

The easiest (although not entirely foolproof) way to identify a spot is by a tooth patch on its tongue.

To help with identification: Spotted bass usually have a tooth patch on their tongues. Largemouths rarely have it, and smallmouths are rarely confused with spotted bass.



MELISSA McGAW/NCWRC

"As far as lures and flies, the key to remember is a spotted bass has a smaller mouth than the largemouth. You just need to downsize a bit, but not change your kinds of lures. Spots do eat the same forage as other bass species, such as insects, frogs, crustaceans and most importantly, shad."

"For the spin fisherman, smaller jerkbaits and 5-inch soft plastic worms or a grub on a 1/8 ounce jig is effective. For the fly-fisherman, try small baitfish patterns, Clousers and crease flies, all around size 8 or 10. Spots provide a lot of numbers but not really large fish all that often."

From the experience of N.C. Wildlife Resources Commission biologists, spotted bass dwell in a variety of habitats.

"In the Yadkin and its tributaries, spots are most often found in slower pools and eddies, often near

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woody debris," says District 7 Fisheries Biologist Kevin Hining. "In W. Kerr Scott, we routinely capture smaller individuals 10 to 12 inches along the shoreline, but larger fish in the 15- to 17-inch range are often found holding in deeper water. However, from our experience, they definitely appear to be habitat generalists, and you might find them in just about any type of habitat."

David Yow, warmwater coordinator for the Mountain districts, reports that in western reservoirs, spotted bass are more pelagic (open water) than other bass species. In long reservoirs on the main stem of large rivers, such as Hiwassee and Fontana, spots seem to do especially well in the middle portion of the lakes, whereas smallmouths can still be found on rocky points, especially in deeper areas toward the lower (dam) end, with largemouths preferring the shallower habitats at the upstream end of the reservoir and in larger coves.

Piedmont biologist Lawrence Dorsey says that spotted bass inhabit deeper habitats than largemouth do in Lake Norman, and are now the dominant black bass in all areas of the reservoir. "They are most heavily dominant in the lower and middle sections of the reservoir," Dorsey says. "Largemouth bass still remain in good numbers about the Highway 150 bridge, but we are unsure if this trend will continue as spotted bass expand their distribution throughout the lake."

And in the Coastal region, biologist Keith Ashley says that the best places to fish for spotted bass in the Cape Fear River would include in and around large woody debris where the current is not as strong.

"Full of sound and fury"
"Macbeth," Act 5, Scene 5

Spotted bass fight furiously, although Brady rates them not as strong a combatant as smallies, noting that they "run out of steam" quicker than their black bass brethren.

"The spot is a harder fighter than a largemouth, but doesn't quite match up to a smallmouth," adds Shaffner. "The spot also has a whiter body and more vivid green sides than a largemouth, so he is a sleeker looking fighter, too. I only wish spots grew bigger in our rivers."

Paul Rose compliments lake spots on their tenacity. "They are scrappy and hit hard," he says. "You will frequently find them crashing and chasing bait, always a good time to target them whether you're a longrodder or spin fisherman. Spots can be a definite target of a trip rather than an accidental bycatch. Their aggressiveness is a plus."

"Golden opinions from all sorts of people"
"Macbeth," Act 1, Scene 7

With the help of Yow, I contacted the state fisheries biologists that manage spots in their respective regions. Here, first are the region, then the biologist, his analysis of the fishery, popularity among anglers, and size ranges.

Coastal, Keith Ashley: Upper Cape Fear River is best (Lillington to Erwin), including the Upper and Lower Little Rivers; middle Cape Fear River from Fayetteville to Elizabethtown. Black bass are very popular in the Cape Fear River, but many anglers may be unaware that there are actually two species of *Micropterus* in the river and tend to lump any spotted bass they catch with largemouth bass.

"The commission began sampling black bass in the Cape Fear in 2003, and for the second consecutive sample, spotted bass outnumbered largemouths. Under current statewide regulations, (five-fish daily creel limit in aggregate and a 14-in. total length minimum size limit, spotted bass do not attain harvestable size in the Cape Fear River. No harvestable size spotted bass were collected in 2011 and the numbers of age-5 and age-6 spotted bass remain low. No spotted bass older than age-6 were collected, suggesting survival is low beyond age-6. Commission biologists have submitted a regulation proposal for the next cycle that if implemented, would allow the harvest of smaller spotted bass and largemouth bass in the Cape Fear River. Spotted bass tended to dominate the collections from Lillington to Tory Hole Boating Access Area, while largemouth bass tended to dominate from Tory Hole to Lock and Dam No. 1."

Spots can be a definite target of a trip rather than an accidental bycatch. Their aggressiveness is a plus.

A spotted bass's largest dorsal fin spine is usually less than twice the length of the shortest spine.

MELISSA McGAW/NCWRC

NATIVE or NOT?

"Although they were probably native to the lower reaches of our western rivers, essentially all of the spotted bass populations in North Carolina today were introduced, either by agency stocking programs in the 1970s or by more recent introductions by anglers," says David Yow. "They continue to expand, both in the extent of their range and in their abundance relative to other black bass species, in most of the waters where they occur in North Carolina. Examples of ongoing expansion are found throughout the state. In the Cape Fear there is some evidence that spotted bass may be displacing native largemouth bass populations, as the catch rates and size structure for largemouth bass in the river have declined in recent years.

"In Lake Norman, spotted bass expansion might also be at the expense of the largemouth bass fishery, as the number of 8- to 12-inch largemouth bass collected during spring electrofishing is still far below levels found in past surveys. In the upper Yadkin basin, practically all the larger tributary streams now have spotted bass populations."

Yow adds that in Lake Chatuge, a black bass fishery that once featured smallmouth bass is now dominated by spots, with almost no smallmouth remaining and a dwindling proportion of largemouth bass. Spotted bass have quickly become established in Hiwassee and Fontana reservoirs and continue to hybridize with and displace smallmouth bass from large portions of those reservoirs.

See Nature's Ways, page 43.

Piedmont, Lawrence Dorsey: Spotted Bass are now present downstream of Lake Norman in Mountain Island Lake and to a lesser extent in Lake Wylie. Anglers are now targeting spotted bass in Lake Norman mostly because they are the dominant black bass in the reservoir.

Of the larger spotted bass collected in recent power company electrofishing surveys, most ranged between 14 and 16 inches. Also, a typical 16-inch spotted bass weighed approximately 1 pound, 10 ounces. This is similar to the average weight of 1 pound, 13 ounces for a 16-inch largemouth bass collected from Lake Norman.

Foothills, Kevin Hining: W. Kerr Scott Reservoir and the Yadkin River and its tributary streams are the primary spotted bass waters in northwestern North Carolina. However, a few years ago spotted bass began to show up in gillnet and electrofishing surveys on Lake Hickory. We will be watching the largemouth bass population closely on Lake Hickory to see what effects the introduction of spotted bass has.

Although spotted bass are the dominant gamefish in the Yadkin River, anglers probably target them to a lesser extent than smallmouth bass. So, they are popular to a small group of anglers, but definitely not targeted to the extent largemouth and smallmouth are. Sample data shows spotted bass routinely reach 15 to 17 inches in W. Kerr Scott reservoir and 14 to 16 inches in the Yadkin River.

Western Mountains, David Yow: Lake Chatuge in Clay County is the best spotted bass fishery in the mountains. Spots became established there in the early 1980s, and they are now the most abundant black bass in the reservoir. Smallmouth bass have virtually disappeared from Chatuge since the appearance of spots, and largemouth now constitute less than a fourth of the bass fishery.

Spotted bass are becoming more abundant in other reservoirs where they have recently appeared, including Hiwassee and Fontana. On Chatuge, spots are the mainstay of the black bass fishery. On other reservoirs they are likely caught incidentally by anglers seeking other bass species, although they can be targeted by fishing particular habitats and/or parts of the reservoir.

Lake Chatuge regularly produces 2- to 4-pound spotted bass. Small spots are numerous in Hiwassee, and although smaller size is a problem, those anglers seeking fish for the table may appreciate the abundance of fish of this size. Smallmouth anglers are frustrated by the frequency of smallmouth-spotted bass hybrids, and pure strain smallmouth bass become harder to find in reservoirs where spotted bass populations are expanding, especially in Fontana.

"That his virtues will plead like angels"
"Macbeth," Act 1, Scene 7

The spotted bass definitely has virtues, but some serious negatives exist as well. "Although spotted bass are popular with many anglers, their appearance in North Carolina waters has not come without a cost to other sport fisheries," says Yow. "Introduced species represent one of the greatest threats to our aquatic resources, and in recent decades we have documented many such unwanted introductions. Although sometimes the result of ill-advised attempts of fishery managers of the past to 'improve' fishing opportunities, more often these introductions are the result of unauthorized transport and release of fish or other aquatic animals and plants by members of the public who are either unaware or unappreciative of the consequences of their actions.

"As an example, we are very concerned about the possibility of spotted bass becoming established in Lake James, where they would threaten the extremely popular smallmouth and largemouth bass fisheries that are present. Unfortunately, we have heard angler reports of spotted bass in Lake James, but we have not confirmed these reports or captured any spotted bass in our sampling gear.

"Thus, we ask for everyone to do their part to help prevent the illegal introduction of fishes into Lake James (and elsewhere) by sharing information about the consequences of species introductions and by reporting wildlife violations in North Carolina to 1-800-662-7137."

Of course, William Shakespeare certainly didn't have the spotted bass in mind when he wrote "Macbeth." One thing that is certain, though, is that the presence of spotted bass in North Carolina waters is a complicated issue, and one that state biologists and anglers will have to contend with in the years to come.

Frequent WINC *contributor Bruce Ingram is the author of four books on river smallmouth fishing, including "The New River Guide" and "Fly and Spin Fishing for River Smallmouths." For more information, contact him at be_ingram@juno.com.*

Mount Mitchell

From North Carolina to Canada in less than an hour.

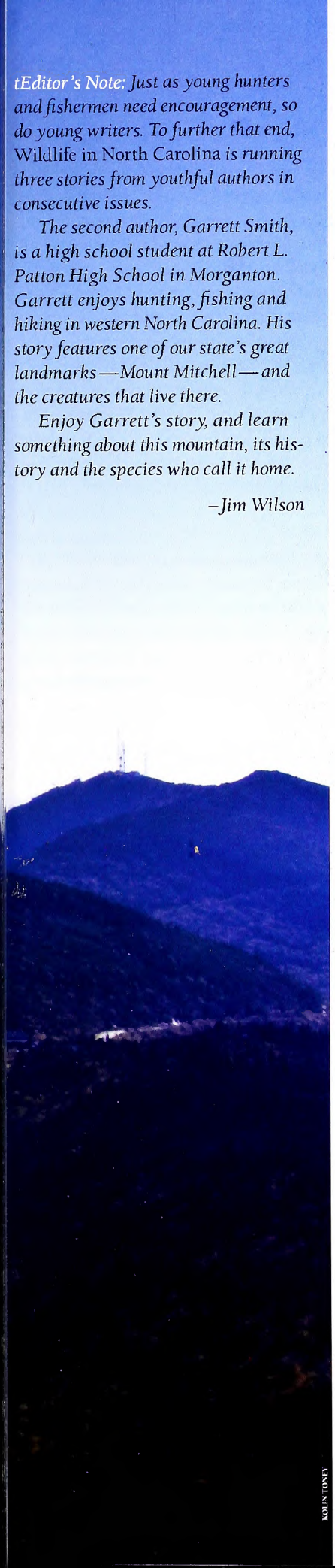
WRITTEN BY GARRETT SMITH

tEditor's Note: Just as young hunters and fishermen need encouragement, so do young writers. To further that end, Wildlife in North Carolina *is running three stories from youthful authors in consecutive issues.*

The second author, Garrett Smith, is a high school student at Robert L. Patton High School in Morganton. Garrett enjoys hunting, fishing and hiking in western North Carolina. His story features one of our state's great landmarks—Mount Mitchell—and the creatures that live there.

Enjoy Garrett's story, and learn something about this mountain, its history and the species who call it home.

–Jim Wilson



KOLIN TONEY

When I took my first trip to Mount Mitchell, I knew I might as well have said I wasn't in my home state anymore. Of course, everyone knows that the highest peak east of the Mississippi River is in North Carolina, but when a tourist, hiker or camper first ascends this mighty peak, he may soon realize that this mountain strikes an amazing resemblance to the northern boreal forests of Alaska, Canada and Russia.

Many of the plant and wildlife species found in the Black Mountain range are found almost nowhere else in North Carolina, although they can be found at peaks that are of similar height, such as Grandfather Mountain. Red squirrels bounce from tree to tree, black bears roam through the forest in search of berries and anything else appetizing, peregrine falcons dive through the sky at amazing speeds of up to 120 miles per hour, and even the occasional golden eagle can be seen making a rare visit to this mountain.

At night, lucky campers might see a rare least weasel or the endangered northern flying squirrel. Those who visit the spring or turn over moist, damp logs may find spring salamanders, pygmy salamanders or wood frogs. The flora of Mount Mitchell consists primarily of Fraser firs, with a few red spruces. However, many of the mature Frasers are dead due to acid rain and the balsam woolly adelgid, which is an exotic aphid-like insect from Europe.

Acid rain (top) and the balsam woolly adelgid, an invasive insect, have taken a toll on Fraser fir trees around Mount Mitchell, which is the highest peak east of the Mississippi River, over 6,000 feet in elevation.

Skeletons of these large, dead Fraser firs can be seen just by looking over the mountainside and will haunt Mount Mitchell for years. The Fraser fir is found only on the highest peaks of the southern Appalachians and is most dominant over 6,000 feet in elevation and is classified as threatened. Conservationists are working to save and preserve these Ice Age relics.

My first trip to Mount Mitchell involved my brother, my parents and me. I had always been curious about the mountain, but mainly with hopes of catching a glimpse of its unique wildlife. I remembered reading that many northern animals, such as red squirrels and black-capped chickadees, lived at these high elevations. When we arrived and began walking the nature trail, we saw nothing more than some songbirds which we couldn't identify. However, on the way down the mountain, we saw a red squirrel as it frantically hopped across the road to avoid being hit.

My second trip to the mountain was made by a couple of friends, Bo and David, and me. Although we didn't see any red squirrels this time, we did manage to see a raven soaring about 10 feet above

us on the summit of Mount Craig, and before that, we saw what looked like a golden eagle soaring in the distance.

My third trip here involved Bo and me once again, this time accompanied by Daniel (whom we know as D. J.). On this trip to Mount Mitchell, we still didn't spot any red squirrels or even any ravens, but D. J. managed to flush a couple of ruffed grouse with a sneeze along the trail.

My fourth, and so far last, trip to the mountain involved another couple of friends, Ryan and Nathaniel, and me. On this trip we saw nothing more than a raven and a few songbirds at the mountain, along with some bear droppings on the trail to Mount Craig, but it was a fun trip, nonetheless.

The wildlife of Mount Mitchell is among the most diverse in our state.

Mount Mitchell stands an impressive 6,684 feet, and from the observation deck, viewers can see rolling hills and the Blue Ridge Mountains pouring out into the vast Piedmont. On clear days viewers can even see Charlotte if they know which direction to look (I speak from experience). Mount Mitchell has an amazing history, and the grave of the man the mountain was named after, Dr. Elisha Mitchell, rests beside the overlook.

History

Over a billion years ago, the Appalachian Mountains were formed. These mountains stood as high as the Rockies do today, and even higher in some places. However, millions of years of erosion, combined with the elements of wind and water, have reduced the Appalachians to what they are today. The Black Mountains contain the two highest peaks in the Appalachians, Mount Mitchell and Mount Craig, which is about a mile to the north of Mount Mitchell. These two mountains are made up mostly of igneous and metamorphic rock, which are not as greatly affected by erosion as some other types of rock.

In 1853, Dr. Elisha Mitchell explored this area. Mitchell was a professor at the University of North Carolina in Chapel Hill. He was determined to obtain the height of the mountain. Beginning in 1838, he conducted several visits there, which, at the time, was known as Black Dome. With these visits, Mitchell calculated the mountain at a height of 6,672 feet—an error 12 feet short of the mountain's actual height.

In the 1850s, there was a controversy over which mountain was higher: Black Dome or Clingman's Dome (the highest peak in the Great Smoky Mountains, third-highest peak east of the Mississippi River). A former student of Dr. Mitchell, Thomas Clingman, claimed that his mountain at an elevation of 6,941 feet was higher than Mitchell's. In 1857, Dr. Mitchell returned to Black Dome to verify his measurements. While hiking across the mountain he discovered what would later be called Mitchell Falls, a 40-foot waterfall that is currently on private land and off limits for tourists. While standing at the top of the waterfall, Dr. Mitchell lost his balance, fell into the deep pool below, was knocked unconscious and drowned. He was originally buried in Asheville, but around a year later, his body was moved to the summit of Black Dome, now named Mount Mitchell. In 1915, Mount Mitchell became the first North Carolina state park.

In the 1930s, a game reserve for elk was formed around the Black Mountains in an effort to try and reintroduce the species. Later on, a trout stream—Neal's Creek—at the bottom of the mountain was restricted for a number of years to women anglers only.

TODD PUSSER

CAN STOCK PHOTO

TODD PUSSER

Eastern wild turkey (top left) and red squirrels are residents at Mount Mitchell. Elk (left) were killed off during the 1700s, but have been re-introduced in the Cataloochee Valley west of Mount Mitchell.

Wildlife

The wildlife of Mount Mitchell is among the most diverse in our state. Mammals include the red squirrel, Northern flying squirrel, rock vole, Southern red-backed vole, least weasel, and Appalachian cottontail. Many of the birds found here are species that are indigenous to Canada's taiga forest, such as the raven, Northern saw-whet owl, broad-winged hawk, ruffed grouse, red crossbill and golden eagle. These high altitudes are also a haven for the spring salamander and wood frog. It is not uncommon in warm months to encounter black bears or timber rattlesnakes, both of which can injure the careless or incautious visitor. Although Mount Mitchell simulates a northern environment, one must not forget that it is in a southern state and is still a home for animals that can be found anywhere else here, including the white-tailed deer, bobcat, red fox, gray fox, long-tailed weasel, Eastern cottontail and wild turkey.

Mammals

Mount Mitchell has many mammals that inhabit the rest of the state, but at this elevation some species from New England, Canada and Alaska are dominant. Gray squirrels are not usually found at this elevation, but are replaced with red squirrels. Southern flying squirrels are replaced with Northern flying squirrels. Some mammals were not so lucky. Elk, bison, fishers, gray wolves, and snowshoe hares that used to live here historically disappeared. Elk and bison were extirpated during the 1700s, fishers were probably wiped out by fur-trappers in the 1800s, gray wolves were eliminated during the early 1900s, and snowshoe hares were probably driven off by climate change, combined with some trapping.

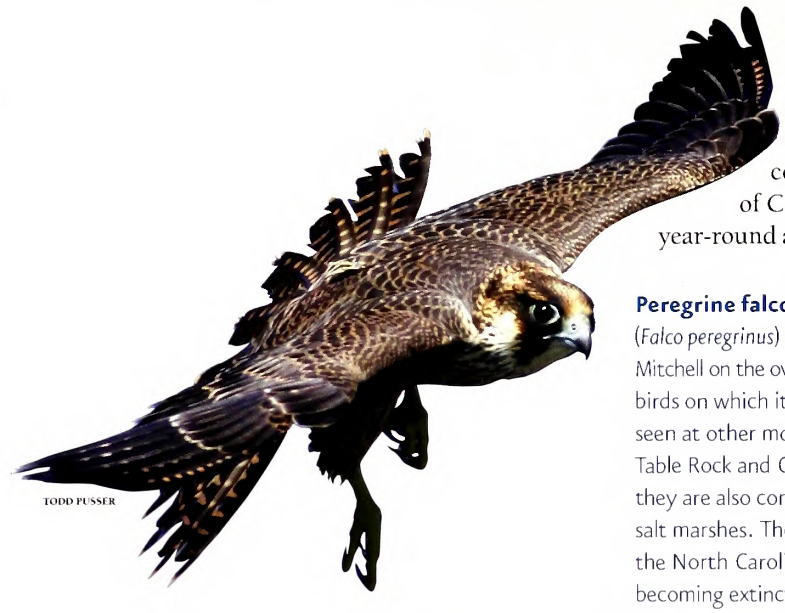
Red squirrel The red squirrel (*Tamiasciurus hudsonicus*), known by many locals as the "boomer," is a fairly common resident to the mountain. This striking squirrel's range is actually characteristic of Alaska, Canada, New England and the Rockies, but it follows the Appalachian chain down as far south as South Carolina, being most common at elevations over 5,000 feet. Red squirrels feed primarily on seeds of pine cones from spruce and fir trees, but have been known to eat bird eggs and hatchlings. They are the smallest of the tree squirrel group, and adults average only a little larger than a chipmunk. The red squirrel is always nervous and hyperactive, and will chatter vigorously at anyone or anything that comes within its territory.

Northern flying squirrel The Northern flying squirrel (*Glaucomys sabrinus*) is larger than the Southern flying squirrel (Glaucomys volans) that is found elsewhere in the state. Northern flying squirrels are common in the coniferous forests of Alaska and Canada, but in the southern Appalachians they are rare and classified as an endangered species. Active at night, these squirrels do not actually fly but glide from tree to tree with large flaps of skin that stretch from the front to hind legs. These amazing creatures are a very rare sight at Mount Mitchell, and any nighttime camper who is lucky enough to see one should consider any sighting a treat.

Appalachian cottontail The Appalachian cottontail (*Sylvilagus obscurus*) is another rare sight at Mount Mitchell. This is a secretive rabbit that lives in dense forest and is never common over much of its range. It is smaller and darker in color than the Eastern cottontail and is found only in the mountains from Pennsylvania to Alabama. It feeds on grass, shrubs and conifer needles.

Least weasel The least weasel (*Mustela nivalis*) is yet another rare resident to Mount Mitchell. This is the smallest North American carnivore, with the biggest specimens being only about 7 inches in length. North Carolina marks the southernmost part of this weasel's range, and it is uncommon in our state. The least weasel feeds on insects, mice, voles and birds. It is dark brown above with a white underside, lacks the black tip to the tail (like in the long-tailed weasel), and is completely white in winter.

Black bear The black bear (*Ursus americanus*) is a common resident at Mount Mitchell. It is also fairly common throughout all of North Carolina's mountains. At Mount Mitchell, bears are most active during warm months and are encountered fairly often by hikers and campers. There are about 15,000 black bears in North Carolina, with the population split mostly between the mountains and the coastal counties, about 60 percent of the state. Black bears can run as fast as 35 miles per hour in short bursts.



TODD PUSSER

Birds

Mount Mitchell has an outstanding variety of birds, from the most common birds in our state to some of the rarest. Birds more characteristic of Canada (ravens, golden-crowned kinglets, snowbirds, and crossbills) live year-round at these high altitudes.

Peregrine falcon The peregrine falcon (*Falco peregrinus*) can often be seen at Mount Mitchell on the overlook, diving to catch other birds on which it preys. Falcons can also be seen at other mountainous places such as Table Rock and Grandfather Mountain, and they are also common along the coastal salt marshes. They were reintroduced into the North Carolina mountains after nearly becoming extinct from DDT poisoning.

CAN STOCK PHOTO

CAN STOCK PHOTO

Red crossbill The red crossbill (*Loxia curvirostra*) is a unique inhabitant of Mount Mitchell. This bird feeds on the seeds from spruce and fir pine cones, and in order to do so, its top beak is curved over the bottom one, and the bottom beak curves upward around the top one. Males are bright red with black wings, while females are brown and yellow. Juveniles resemble pine siskins with a curved beak.

TODD PUSSER

Golden-crowned kinglet The golden-crowned kinglet (*Regulus satrapa*) is one of the smallest songbirds to inhabit Mount Mitchell. Although it is a winter visitor across most of our state, it is a year-round resident to this mountain. Adults are about the size of a Carolina chickadee, with a bright yellow streak on top of the head, giving this striking little bird its name. The golden-crowned kinglet is a brave bird, and at times has been approached closely enough to be held.

TERRY SHANKLE/NCWRC

Ruffed grouse The ruffed grouse (*Bonasa umbellus*) is a common resident of Mount Mitchell, and is found throughout the mountains. In spring and summer, males spread their feathers, much like wild turkeys, and make a very loud drumming sound on fallen logs. These game birds are a ground species and are about the size of a small chicken.

Raven The common raven (*Corvus corvax*) is a frequent resident of the mountain. It resembles a crow, but is larger, tends to soar in flight, has a larger beak, sits more upright and has a hoarser call. Ravens are highly intelligent birds that can grow to be twice as large as crows, with the biggest specimens being recorded at nearly 30 inches in length. However, this is only in the northern part of their range, and in North Carolina, the biggest ravens would only be a little larger than a crow.

Northern saw-whet owl The northern saw-whet owl (*Aegolius acadicus*) is a rare species in the southern Appalachians but is common in Canada, New England, and the Rockies. It is a small owl, reaching only about 7 inches in length. It roosts low in thickets and while it is resting, it is surprisingly tame, and can be approached closely enough to be touched. These small owls feed mainly on mice and voles.

Golden eagle The golden eagle (*Aquila chrysaetos*) is a rare visitor to the mountain. It was persecuted and killed for years and now only a few breeding pairs remain in the east. This bird is mainly an inhabitant of Alaska, western Canada and the Rockies. It preys mainly on small mammals but is capable of killing deer. Any golden eagles sighted at Mount Mitchell are probably just passing through, and any sighting should be considered very lucky.

CAN STOCK PHOTO

Avian residents of Mount Mitchell include the peregrine falcon, the red crossbill, golden-crowned kinglet, the ruffed grouse and the Northern saw-whet owl. The golden eagle (right) has been sighted infrequently.

Amphibians & Reptiles

Mount Mitchell has a surprising number of amphibians and reptiles if you know where to look. Gray tree frogs, spring peepers and toads are sometimes seen here, but salamanders are the dominant species in this forest. Wood frogs, which have the ability to remain frozen in winter and thaw out in spring, also inhabit the mountain.

Spring salamander The spring salamander (*Gyrinophilus porphyriticus*) is common in and around the spring that resides at Mount Mitchell. The wet environment in and around the spring provides perfect habitat for these salamanders, which have the potential to grow up to 8 inches in length.

Wood frog The wood frog (*Rana sylvatica*) is one of few amphibians with a range that stretches into the Arctic Circle. These frogs have the ability to, in winter, "freeze" themselves. Their heart rate decreases considerably, and they can survive being exposed to frost for long periods of time.

Timber rattlesnake Timber rattlesnakes (*Crotalus horridus*) are fairly common at Mount Mitchell. The pine needles and fallen logs, along with crevices in the rocks and boulders, make prime resting and hunting habitat for these snakes. Active primarily at night, they prey mainly on small mammals. The venom of this snake can be life threatening, so caution is advised to campers and hikers during warm months. The timber rattler is now on North Carolina's protected species list. In the eastern part of the state, timber rattlesnakes are sometimes called canebrake rattlesnakes. They do not lay eggs, but give birth to live young.

TODD PUSSER

TODD PUSSER

The spring salamander (top), the wood frog and the timber rattlesnake are all denizens of the forest floor.

Mount Mitchell is truly a place separated from the rest of North Carolina. For another thousand years, Mount Mitchell will be a place where golden eagles soar majestically on top of the east; where peregrine falcons can now have a safe haven and remain "nature's jets;" where red squirrels chatter and play nervously through the pines; where salamanders slither and crawl from rock to rock; where tourists, hikers and campers can come to this serene land and let their worries drift over the mountainside with the fresh, cold air.

Mount Mitchell will be gone someday. It won't be in our lifetime, but it is our job to preserve this land and treat it as though each and every day could be its last. Mount Mitchell is a different place than it was when the first settlers arrived at this mountain. Acid rain and the woolly adelgid have taken a toll on Fraser firs. The elk, bison, fisher, and snowshoe hare are gone. Aside from that, Mount Mitchell will remain a remnant of the Pleistocene. It will always be unlike anywhere else in our state, and I plan to return to this ice-age forest as many times as my life permits.

Mount Mitchell
★

WRITTEN BY DAVID S. LEE

PHOTOGRAPHED BY MELISSA McGAW

Devilishly Beautiful

Two species of the prickly pear are North Carolina's native cacti.

Many people are unaware that North Carolina has native cactus. In fact, we have two native species of the devil's-tongue, *Opuntia compressa*, a wide ranging type of prickly pear. It occurs throughout the state, but it is most common in the Coastal Plain and Sandhills, and is rare in the Mountains. The second species, also a prickly pear, the devil-joint, *Opuntia pusilla*, is restricted to coastal sand dunes and pinewoods of our southern coastal counties.

Botanists are still not in agreement with the scientific names that go with these two plants, or how they are related to other species in the genus. To add to the confusion, there are a few other species of cultivated prickly pears which are occasionally established around trash heaps and at house-sites. Additionally, some of these non-native ones are hybrids of cultivated forms that also have naturalized in various places.

The prickly pear cactus can get you two ways. The long spines are one defense, and they also have smaller barbed bristles called glochids on pads that will detach and work their way into your skin.

Injury to people and pets is common from both our native *Opuntia*, but the coastal devil-joint is the one of most consequence. The plants are small and inconspicuous. Often they are concealed by beach dune vegetation where they are likely to be stepped on by the bare feet of vacationing tourists. The spines inflict painful wounds. The joints of the individual pads detach easily and stick to shoes and the spines easily work their way through most shoes. It is not uncommon for infections to result.

The genus *Opuntia* is a large one with at least 250 named species; 47 species are native to the United States. The genus includes both the cholla of the Southwest and the wider ranging prickly pears. The name *Opuntia* is from a town in Greece where a distinctive cactus-like succulent was known to grow. Different species vary from 20-foot trees with spreading crowns to small ground-hugging plants, some only a few inches in length.

Compared to the graceful growth forms of many cacti, prickly pears are homely. They make up for any shortcomings in hardiness and adaptability, and are tough plants by any standards. Prickly pears have adapted to a wide range of dry, harsh environments, ranging from near the Arctic Circle to the Straits of Magellan. Several have been introduced and naturalized in the Old World and Australia. The introduced prickly pears grow so well in Australia that in some places they have become a major ecological nuisance.

While the plants are unimpressive, they produce large yellow flowers and vivid red fruits. The pear-shaped fruits are also armed with spines, and thus the common name of this genus of cacti. Flower buds appear on the top of new pads grown in the previous season. The wide, stalkless flowers open in succession from the green pads. The flowers open by day and often last several days, darkening from one day to the next.

Clusters of long spines, as well as short, barbed bristles called glochids protect the water-storing pads. These smaller spines, characteristic of the Opuntiae, one of the three basic types of cacti, are all but invisible. Many a person thinking they were carefully picking up pads by placing their fingers between the large spines has learned to appreciate the protective nature of the plant's armament. The tufts of glochids detach easily, readily penetrate skin and work their way into one's flesh. They are quite irritating and because of their small size difficult to remove.

On new growing pads a minute leaf develops just beneath each areole. The leaves are not conspicuous and are quickly shed. The pads of prickly pears are modified stems, and like in other cacti, the stems contain chlorophyll and are responsible for photosynthesis. They take on odd forms to conserve internal water storage by reducing the amount of exposed surface to the total volume of the plant.

Of all of the world's plants, few are as remarkable as the cacti.

The flattened water-storing stems of prickly pears grow in chains, and when the chains become too long to support the weight of the new pads, they break off. Pads separated from the parent plant will often take root and eventually start new plants.

Prickly pears, like most cacti, have two major problems to overcome. They need to resist becoming overheated, and they need to keep from drying out. The adaptations that allow this are what make them such peculiar plants. The thick, flattened stems both store water and contain cells with chlorophyll. Like leaves on more typical plants, the modified stems of prickly pears appear green to our eye because they absorb much of the blue-violet and short red rays to the spectrum.

The green rays are reflected and the absorbed radiant energy is converted to heat. This causes the plants to heat on the inside to temperatures 18 degrees to 27 degrees F higher than air temperatures. Prickly pears can survive with internal temperatures that reach up to 145 F, well above the lethal maximum for most living things, including many other types of cacti. The pads have waxy outer coverings that prevent drying despite low humidity, hot dry winds, and scanty rainfall. The tough covering also helps insulate the plants from the extreme temperature fluctuations between day and night and from season to season. The pad's water storage ability makes them a target for ever-thirsty animals in their habitat, thus the successful species of cacti modified their leaves into spines.

The root systems are mostly in the upper layers of the soil, and the fine branching roots quickly absorb water from light rains. The downward pointing spines collect water from fog, dew and light rains and act as drip sticks channeling it to the plant's roots. Our prickly pears have water-storage tissues in both their stems and roots. Reinforced walls within the plant prevent collapse when the water reserves are low. Water loss is further reduced by the placement of the stomata, pores which cacti, like most plants, need to breath and exchange gasses. The stomata are sunken into pits below the surface of the pads and close during the heat of the day when transpiration rates would otherwise be high. This reduces water vapor loss by as much as 30 to 70 percent.

You can take one of the plant's pads and cut it in two. Leave one of the pieces intact and peel the outer protective layer from the other one. By the time you remove all the spines and barbed glochids from your hands, the peeled half of the pad will have wilted and shriveled under the midday sun. Within the pads of prickly pears the liquid in the cells is mucilaginous, and as the plant's water reserves are used, the protoplasm becomes thick and viscous—binding the remaining water.

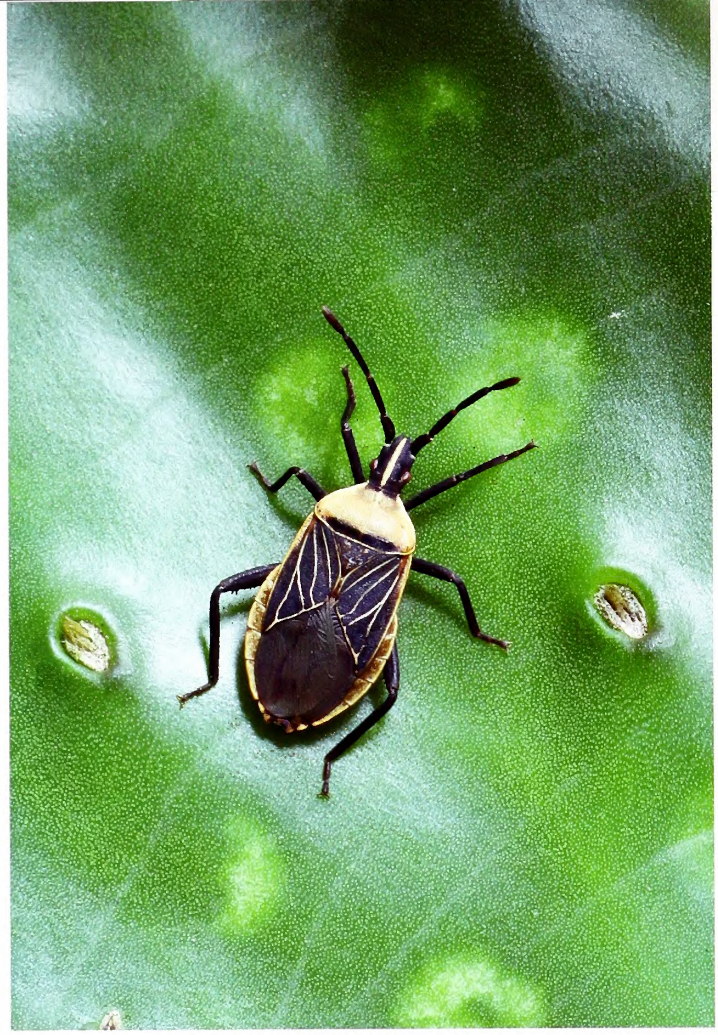
In the winter, water pressure is reduced and the pads will shrivel up and lay flat on the ground. This helps prevent the tissues from freezing. The hardiness of these pads cannot be overstated. In an experiment, prickly pear pads were kept in the dark for five months at a temperature of 82 degrees F. While they lost water through transpiration, they maintained a constant internal water balance. It turns out that *Opuntia* can control their water balance by oxidizing stored sugars.

While all these adaptations are important to cacti, they also have a cost. Because of all the water saving and insulation features, most cacti are slow growing and cannot successfully compete with the faster growing leafy plants that abound in less harsh environments.

Of all of the world's plants, few are as remarkable as the cacti. In addition to their signature spines, these plants often exhibit strange growth forms, spectacular flowers, and adaptations not just for deserts, but also for a wide variety of landscapes. Various species live in extreme conditions of heat or cold, some high up on mountains, a few even above timberline. Others grow as jungle vines, or as epiphytes living high in the canopies of tropical rain forest. A number of cacti are restricted to seacoast, while yet others thrive on high prairie grasslands.

You would think that any damn fool could recognize a cactus, but in truth there are a large number of cactus-like plants that have also adapted stems for water storage and a number of these even have spines. Confusion results because throughout the world there are a wide variety of succulent plants, many of which, like the cacti, thrive in dry conditions. What make cacti botanically distinct from other similar appearing succulents are not the spines, lack of leaves, or swollen water storing stems, but a round, cushion-like structure called an areole. From the areoles grow spines, leaves, hairs, branching stems and flowers. While in some cases other succulents can appear as dead ringers for a particular species of cactus, close inspection shows that because of the lack of the areole the plant in question is not a member of the cactus family.

Several years ago I became involved in a protracted discussion with the curators at the Maryland Zoo about an exhibit they had of Egyptian tortoises. Smack dab in the middle of it was a hedgehog cactus. In that cacti were restricted to the New World, I thought the



The fruits of our native plant can be eaten raw or made into marmalade.

exhibit was giving a bad educational message. They didn't see it that way; the plant in their eyes made the habitat look more natural. I had to revert to animal analogies to make my point. "Well what would you think if you went to a museum and saw a stuffed penguin looking at a stuffed caribou?" (Actually, I had seen such an exhibit once in an otherwise well respected North Carolina nature center.) To drive the point home I added, "What would your opinion of the knowledge of the staff of that institution be?" The next time I visited Baltimore I noticed the cactus had been switched out for a succulent that was at least native to Africa.

The conquistadors were fascinated by the strange spiny plants they found growing in the New World. The Mexican and Caribbean coasts support a wide variety of species with bizarre growth forms, and military personnel and missionaries sent many of these back to Spain where royalty, botanist and laymen were all equally amazed. Botanists had no real reference point for comparison. The plants were received in wonderment and disbelief, as nothing growing in Europe approached their appearance. Growing cacti was quickly taken up as a hobby by those able to get live plants. In 1753 when Linnaeus worked out the present day system of plant classification, he correctly placed them in a separate family, grouping them all under the "cactus," a name derived from the Greek word for thistle—"kaktos."

It would be an unusual household that at one time or another did not have a cactus as a houseplant. Cactus dish gardens are commonly sold in any number of stores. We typically succeed in quickly killing them by giving them too much water; those of us in the know hold back on the water and slowly kill them by under-watering them. Years ago I heard a story about a lady who really excelled in growing cacti

One little known feature about the prickly pear cactus is that most of a plant's pads apparently will grow with the flat side facing east and west. Prickly pears are also resilient and can survive mowings and other setbacks.

in her New England sunroom. Many of her cacti were large specimen plants; the plants thrived and every year produced spectacular arrays of colorful flowers. When people asked about her secret to growing such fine plants, her answer was simple. "I use to water them way too much. So I started subscribing to a small-town south Arizona newspaper. Whenever they reported rain, I gave my plants a little water."

Unlike our native North Carolina plants, prickly pears are of some economic importance in other regions of the world. In Mexico the fruits are a major food item and sold commonly in the markets. Some species are used for hedges, the stems can be cooked like spinach and special spineless varieties are grown for just this purpose. Some types make good forage for livestock, and a number of them are used as landscaping plants. Their fruits are sold in many of our larger local grocery stores. Most people have no idea how to prepare them. I buy them to supplement the diets of some of my pet tortoises. The fruits of our native plant can be eaten raw or made into marmalade. Hopefully you won't forget to peel them and remove the spines.

One would not think there would be much to learn in observing something as lowly as a prickly pear. We have a number of *Opuntia* on a tract of land we own in Bladen County. In that many of the plants are along roads and other openings in the forest, they are forever being run over with vehicles and mowers, yet they keep coming back. In fact, the run-down ones spread more quickly than the ones that are not in harm's way.

During my periodic checks, it suddenly became clear that the pads of the prickly pears were growing out with the flat sides of their pads all positioned in an east-west direction. Over the years I looked at native prickly pears at other sites and most of them were too. While this directional growth was not at a 100-percent level, it was clearly as good a way for lost souls to find their way out of the woods as looking for moss on the north side of a tree.

Out of scientific curiosity, or perhaps just for the devil of it, I planted several pads 90 degrees off their preferred positions. A year or so later all the new pads that emerged from the ones I planted were each facing east or west. This seemed odd. But on thinking it over this actually makes sense. The pads were protected from the intense sun as only the upper edges of the pads are exposed as the sun arcs across the summer sky. I guess this explains why these cacti don't have bulky block-like pads to store water.

Several years back I started planting various types of cacti and other cold-hardy succulents in a block wall that surrounds a greenhouse. The plants did well, and several of the cacti really took off. Last summer I discovered my wall garden had been invaded by cactus suckers. They are a type of true bug that looks like they were designed by Hollywood to man the stage sets of evil empires. Their gregarious nymphs leave telltale sucker marks all over the cactus pads, and with little suction-cupped feet, scurry out of sight whenever I approached.

I hoped they were some exotic insect brought in with plants I had purchased and that they would die out over the winter, but that spring they were back. I looked them up, and they are native to North Carolina. A number of the infected cactus have died, or are in the slow process of dying because of the removal of stored fluids by the suckers.

And one would not think of butterflies as anything destructive, but the caterpillars of several species dwell inside the pads, living off the moist plant tissue. To add to the insult there is a butterfly introduced from South America that occurs along the Gulf Coast whose larvae devastate cactus. Will it spread northward?

So even with all their adaptations, and the protective spines and hairs, life is not secure for our native cacti and they are not about to take over the dunes and sandy soils of our Coastal Plain. The native cacti I have watched here on our own property have neither increased in size or numbers, nor have any disappeared from any of their original post in over 20 years.

How old are they, and how long have these individual plants lived here? I have no idea, but photos taken of large cactus in the Southwest in the early 1900s show individual plants that even today remained unchanged in height and appearance. Large 20 foot tree-like *Opuntia* growing in the Galapagos Islands are said to be over 800 years of age. Would it not be reasonable to think that the prickly pear outside my library window is a pre-Civil War relic?

Regular contributor Dave Lee is director of the Tortoise Reserve, an international turtle conservation organization.

AMISON'S
WHISTLING
BOBBER

Fishing PLAIN

Long before there were fancy boats, fish finders, modern rods and reels and angling tournaments, most of us were introduced to a simpler way of fishing.

written and photographed by
JIM DEAN

Some poetic soul once observed that one of the sweetest sights to a fisherman is "the ripple on the water where the cork was." Hard to argue with that, and it is also a good bet that most adult anglers' roots can be traced to that sweet and distant memory of a disappearing cork back when we were no more than 5 or 6 years old. The years may pile up, but the romantic appeal of fishing with cane poles and floats made of cork lingers even after we gravitate to more sophisticated gear and tactics.

Don't we still remember the smell of red worms on our fingers, and the ritual of digging for them in the rich earth in a barn lot? That old metal minnow bucket hanging in the back of the garage is likely the same one that you played in as a child, dabbling your fingers and watching the minnows dart as you tried to net one. And somewhere in all this clutter is an old rusty wire cricket cage that has not held a chirping cargo in many a year. Tucked up under the eaves, there are probably also a few cane poles, gray and splitting with age, and at least one of them might possibly be wrapped with rotting linen line strung through the first cork float (mine was green and white) that you ever owned. When this stuff was in service, we were lean and tan and there was still hair on our not-so-innocent heads.

Back then, my family fished mostly on old millponds, or in the black-water rivers of the upper Coastal Plain—the Chowan, Cashie, Wiccacon Creek and others—in tippy and leaky homemade wooden boats that we rented and bailed with tin cans. The rivers are still there, of course, and so are many of those millponds, although I have not been to some of those ponds in half a century or more. I can see them, though, just as if I had fished them yesterday. Among them were Jordan's Pond near Seaboard, Merchant's Mill (then known as William's Pond) near Gatesville, Bull Hill Pond in Northampton County's Occoneechee Neck and, most especially, Bluegill Pond near Littleton where I caught my first tiny bluegills and crappies while fishing with my grandfather.

> "Indeed, smell is such a critical part of memory that, no matter how many years have passed, we could be blindfolded and taken to an old favorite spot and instantly identify it by odor alone."

And farther east in the mouth of the Little Alligator River, there was a dilapidated cabin built on pilings over the water where my family spent weeks each summer (the last time in the late 1950s). It collapsed a decade later, leaving only a sentinel outhouse (also now gone).

Surely, these kinds of places are not greatly different from those you remember, nor are the things they call to mind—bright puffy clouds on a summer day, the light slap of wavelets on the hull, the rasp of red-winged blackbirds, lily pads beaded with droplets and dark, tannic water swarming with water bugs. And it's likely your brightly colored cork often had a dragonfly perched on top.

My family traveled to these places in an old sedan with the cane poles sticking out a rear window. There were fewer pickup trucks then (even if you really were a farmer), and no vehicles had air-conditioning. The windows were wide open to the buffeting wind and the passing aromas of hog lots, overworked septic tanks and road kills.

Indeed, smell is such a critical part of memory that, no matter how many years have passed, we could be blindfolded and taken to an old favorite spot and instantly identify it by odor alone—that old musty boathouse, the cabins we stayed in, the faint cedar smell of juniper boats, the pungent cypress swamps that spread wild on every side, even the dank, fishy water itself.

More than half a century later, I still occasionally open my grandfather's old tackle box just to inhale the mingled aromas of citronella and 6-12 insect repellant overlaid with the essence of 5-cent Muriel Senator cigars. Dad's tacklebox also carries more than a trace of 6-12, but with an added hint of bird dog (Buck?) from an old collar stored there. And is it my imagination that I detect the faintest whiff of the Mennen after shave lotion he always wore? I think these must be like fine wines, improving with age.

Of course, we cannot separate the physical qualities of these places from the memories of those who agreed (however reluctantly at first) to take us along and, in doing so, gave us a fully immersed baptism into a lifelong obsession. Their faces are like fading photographs pinned prominently to these artifacts — fathers or grandfathers most likely — but others as well, a mother or grandmother wearing a straw hat and sitting in the front of the boat, looking serenely happy and improbably young.

In the late 1950s, North Carolinian Robert Ruark observed in one of his *Field & Stream* columns (later collected in two volumes; "The Old Man and the Boy," and "The Old Man's Boy grows Older") that "fishing is a state of mind." That sounds about right, except that it's also very nearly a constant state.

Over time, the mind condenses and edits these pleasant memories, creating a drifting, wistful recollection that may not be literally accurate. As a child, I recall lying in bed hearing the distant early morning drone of a small outboard that passed ever so slowly. Was that at Ft. Landing or on the Chowan? When that bass broke my first cheap metal rod and ran away with everything but the wooden handle, was I at Bull Hill, some gravel pit or perhaps elsewhere? Where were we when I first saw my grandfather thrash the water with his pole to attract crappies — Cashie, Wiccacon? Did we stop and eat at the Red Apple in Murfreesboro that trip, another or always?

If "nostalgia is the rust of memory," we eventually reach the age where we are comfortable with the dreamlike patina of whatever remains. Besides, what really matters is so easily reclaimed — open that old tackle box or find that old cork. Better yet, look through the yellowing black-and-white snapshots in the family album. Surely, you will find some dear departed soul fishing on a wonderfully familiar piece of water using nothing fancier than a pole and cork.

I believe I'm going to join them for an hour or so. Maybe you'd like to come along.

Jim Dean is the former editor of Wildlife in North Carolina *and has written a couple of books, including "Dogs That Point, Fish That Bite," a collection of his essays.*

JODY DUGGINS/NCW

WRITTEN BY
MIKE MARSH

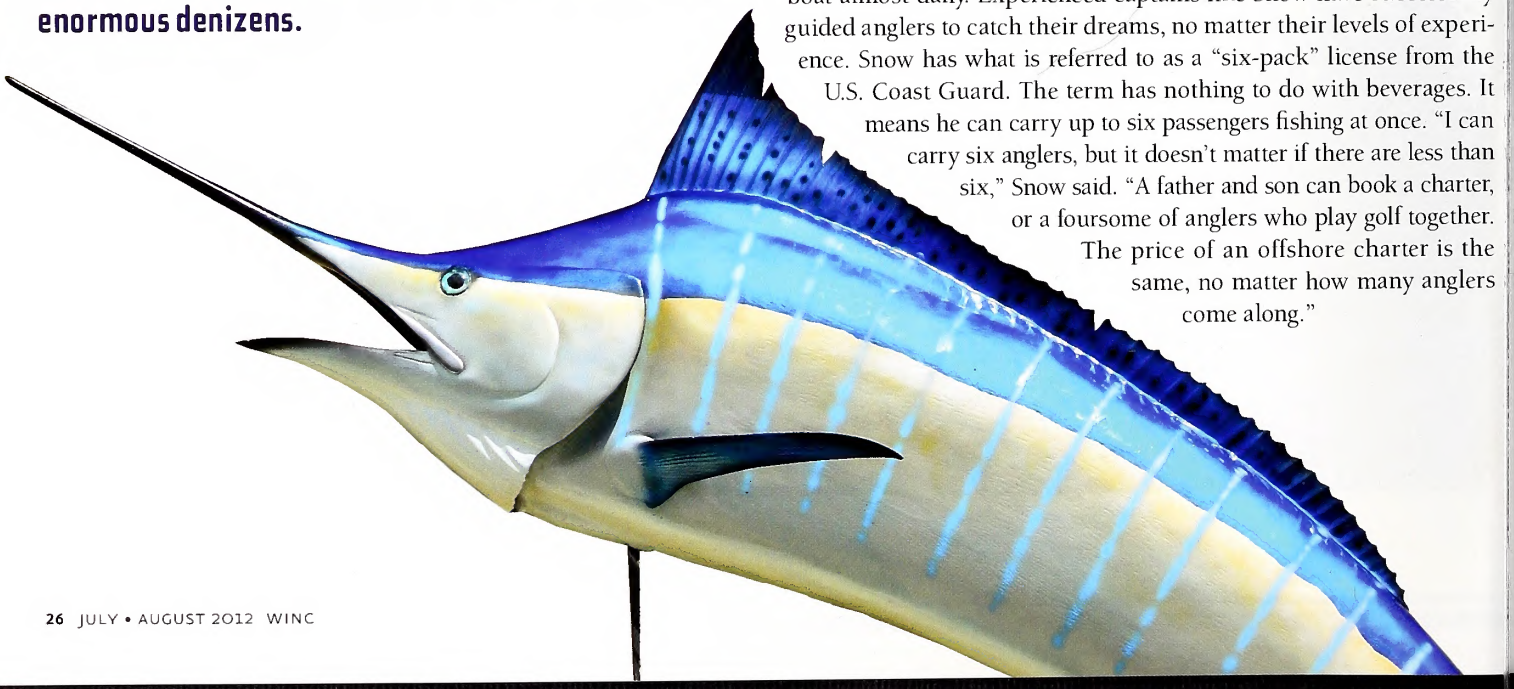
World-class fishing is just off our coast in the Gulf Stream.

BIG-GAME DREAMS

North Carolina offers so many fishing opportunities it is difficult to pick a favorite species to catch—or a destination for catching it. For some anglers, the dream takes shape the first time a bluegill dunks the bobber during a childhood fishing trip. To many anglers, fishing therefore equals wishing and that wish often culminates in dreams of trolling for the Atlantic's enormous denizens.

No matter where the hazy daydreams begin, at some point in any North Carolina angler's life, they can easily gel into solid reality. Heading to the Gulf Stream to catch the state's fabled saltwater giants is actually a very simple task. Such a trip may be only a once-in-a-lifetime event for some anglers. For others, the attraction becomes so strong they buy large craft suitable for blue-water fishing, or even become charter boat captains. While the vast majority of anglers fall into the former category, Capt. Carl Snow, Jr. is one of the latter. The 69-year-old Carolina Beach native has operated charter boats for 49 years.

Snow operates Fish Witch Charters piloting his 48-foot Henriques boat almost daily. Experienced captains like Snow have successfully guided anglers to catch their dreams, no matter their levels of experience. Snow has what is referred to as a "six-pack" license from the U.S. Coast Guard. The term has nothing to do with beverages. It means he can carry up to six passengers fishing at once. "I can carry six anglers, but it doesn't matter if there are less than six," Snow said. "A father and son can book a charter, or a foursome of anglers who play golf together. The price of an offshore charter is the same, no matter how many anglers come along."



For anglers who normally do other things with their pals on weekends, or even for those who don't, it is a good idea to take a weekday off from work for a day of offshore fishing. The ocean is a very big place. But there are many great fishing spots along the continental shelf where the water depths cascade to 500 feet that fish—and the fishermen who want to catch them—congregate.

"The best days to book trips are Monday through Thursday," Snow said. "The weekends can get very crowded. I have seen as many as 500 boats in the Gulf Stream on a weekend day. Another thing to think about is what type of fish you want to catch, because certain species bite better at different times of the year. A Gulf Stream charter trip should be scheduled at least six months in advance, or even longer if you want to book a trip for a holiday or at prime fishing times."

While Snow fishes out of Carolina Beach, the species list migrating along the Gulf Stream remains fairly constant along the state's coastline. Therefore, other considerations, such as driving distance to get to the boat, side trips for families (such as an Outer Banks vacation), or the water distance traveled to get to the fishing grounds, should be given strong preference in selecting a charter boat's docking location.

"Our yellowfin tuna action usually begins in April," Snow said. "We also catch blackfin tuna and wahoo when the yellowfin show up. By May, dolphin arrive and by June, dolphin become the dominant fish while we are still catching a few yellowfin and blackfin tuna. In the hot summer months, billfish make a strong showing, and we start catching blue marlin, white marlin and sailfish with the tuna and wahoo action tapering off. In September, October and November, the fishing for wahoo and sailfish is really hot."

Some charter captains may head for warmer climes in South America or Florida for the winter. But, if the bluefin tuna make a strong showing in November, December and January, anglers can always find plenty of charter boats remaining along the North Carolina coast to take them fishing. Anglers can tangle with giant tuna that may top half a ton, with boat running time much shorter because bluefin tuna remain closer to the beach than warmwater game fish.

The distance a boat must travel to get to the fishing area is one aspect figured into the price of a charter boat booking. Boats that travel as far as 70 miles to get to the Gulf Stream where the action is, can cost from $250,000 to more than $1 million, well beyond the financial ability of almost everyone. Just running an offshore rig for a day will set the owner of such a boat back hundreds of dollars in fuel, ice, bait, maintenance and equipment costs.

KEN TAYLOR/NCWRC

JOEL ARRINGTON

RODNEY FOUSHEE/NCWRC

Yellowfin tuna (left) and bluefin tuna are available off our coast. The bluefin tuna harvest is strictly controlled by federal regulations, whereas many thousands of yellowfins are harvested each year.

It is therefore understandable that Gulf Stream fishing charters cost from $1,000 to $2,200 per day, with most prices falling somewhere between. Snow's prices run from $1,650 for a 14-hour trip to $900 for an 8-hour trip. But he recommends that if a group of anglers is going to the time and trouble to book a charter, they should book the longer trip because the ride between Carolina Beach and the Gulf Stream eats up three hours each way, leaving eight hours remaining for fishing. Book enough time.

Since Carolina Beach is at the state's southern coast, where the Gulf Stream is about 60 miles offshore, the ride to the Gulf Stream is farther and takes longer than it does along the northern coastal regions where the Gulf Stream comes within half that distance. It stands to reason that a Gulf Stream charter out of Morehead City, Cape Hatteras or Oregon Inlet may be less expensive than a charter out of Calabash or Carolina Beach because of shorter boat rides. However, anglers should still call all potential ports for prices because charter fishing is very competitive. At the same time, anglers must consider that they may have to drive farther from home as a tradeoff to obtain a shorter water ride, which, along with spending one or two nights in a motel can add substantially to the overall time and cost for the fishing adventure.

"I encourage everyone to comparison shop before booking a charter," Snow said. "But once you do your homework, if a certain charter seems much less expensive than similar charters, there is probably a reason. To have a good fishing trip, you should always book a trip with a

reputable captain who will furnish references. Ask other anglers who have been fishing on his boat before you book a trip."

With the idea of skimping on the actual costs of the charter dispelled, there are other ways to cut the overall cost of the trip. Maintaining the "golf to Gulf Stream" comparison, anglers should think of offshore trolling in the same way as a round of golf. It takes a foursome to play a round of golf. For a day of offshore fishing, a six-some can share the cost of a charter. For Snow's longest trip that means a cost of $275 per angler. In addition, there are tips for the captain and the mate, which typically amount to 10 to 20 percent of the cost of the charter, or about $55 per angler, for a total cost of $330 per angler.

Finding five buddies who say they want to share a charter is not difficult, even for that cost. But to get the same six to go on the scheduled day can be frustrating. Last-minute bailouts are common, as with Saturday golf foursomes, so it pays to have alternate anglers who know the trip is scheduled. Seldom will the same six anglers go together on repeated trips so it pays to have a pool of potential anglers to keep the boat full. Another way to solve this situation is to make everyone pay their share of the charter costs upfront, putting it into a common fund. Even if just one angler actually makes the trip, he doesn't risk canceling the trip and losing what can be a substantial deposit, which is typically half the cost of the trip in advance.

A great way to find potential anglers for a Gulf Stream charter is joining a fishing club. Saltwater fishing clubs are located far inland, but even bass fishing clubs are full of potential saltwater fishermen who have the Gulf Stream Dream. Once they find out how inexpensive the trip can be and that it is actually in the planning stage, many anglers are only too happy to be counted in.

The best way to get a good rate is to ask around at least one year in advance. No one should book a charter until they have contacted several captains at the ports they would prefer fishing from. Contact information for charter boats is available from chambers of commerce, via the Internet, in telephone books and in classified ad sections of magazines.

Different sized boats have different charter prices. A 35-footer generally costs less to charter than a 50-footer. On a calm day, the 35-footer may be the better choice, but a bigger boat is a bargain if seas get rough. Anglers should also assess their sea legs when selecting the boat size because larger boats are more stable.

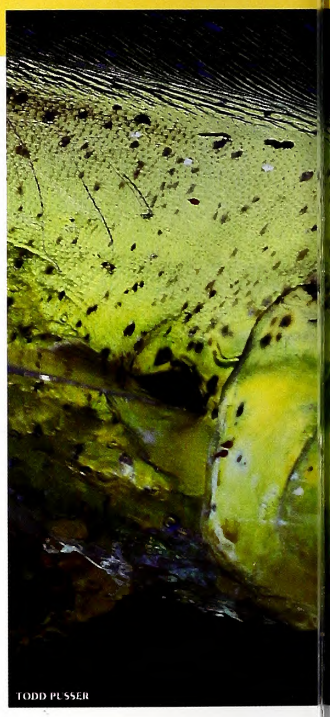
A larger boat also reduces the possibility of a trip being cancelled at the last minute. Hazardous sea conditions can occur, especially during the hurricane season. The captain decides if it is too rough to fish. The deposit is refunded or remains in effect toward a mutually agreeable alternate date.

Anglers should not be afraid to negotiate. A deposit is typically one-half the day rate and may not be refunded if the party doesn't show up to fish. An angler who wants to fish on the cheap might ask a captain if he ever discounts any cancelled trips for which the deposit has been forfeited. If he does, the would-be offshore angler should make arrangements, ready to round up his party of anglers to head for the boat. Usually the invitation will come the evening before the trip, so when trying this tactic the anglers should try to fish from a port as close to home as possible.

With the cost of driving high, carpooling pays. If six anglers are driving from the same hometown, one or two can drive while the others split the fuel costs. One or two full-sized SUVs are needed to carry six anglers plus enough ice chests for the potential catch.

Some captains, including Snow, do not want personal ice chests aboard. Anglers should therefore ask about personal ice chests when booking the charter. Snow furnishes everything else needed for the trip except food and drink. Anglers should bring the same things they use for everyday fishing, including sunglasses, sunscreen lotion, foul weather gear and, especially, non-skid, non-marking shoes.

With the bond between angler and fish complete it finally hits home.


TODD PUSSER

Many anglers make the mistake of bringing coolers that are too small to carry their catch home upon their return from the Gulf Stream. A few wahoo, tuna and dolphin can overfill typical ice chests. First-time blue-water anglers should buy or borrow the largest ice chests they can fit inside their vehicles, in pickup beds or on external racks. Giving away fish at the dock because of insufficient space is probably the number one mistake first-timers make.

The mate usually cleans the fish and sometimes charges a fee for that service. If the catch is good, it never hurts to ask if the mate will take some of the fish instead of a tip or fee for cleaning the fish. Some marinas have fishing cleaning and packaging services, including freezer storage. This is particularly handy for vacationing anglers. Inquire before you leave.

Having a good time is what offshore fishing is all about, but everyone has a different definition of what it means. Everyone should be as physically fit as possible, especially in regards to the muscle tone of their legs. Fourteen hours on a shifting deck turns most landlubbers' legs to rubber. Out-of-shape anglers are more prone to seasickness because it takes physical effort to stay balanced. Anyone who thinks he may become seasick should ask his doctor for medication well in advance of

"Fish On!"

JODY DUGGINS/NCWRC

TODD TESSIER

The dolphin, or mahi-mahi (left) is the most heavily harvested offshore fish in North Carolina, with millions of pounds taken annually. Some anglers target billfish like the white marlin (top), but the vast majority are released to fight another day.

the trip or buy an over-the-counter medication and take it as prescribed. A natural alternative to medication is ginger tablets, and there are other seasickness remedies, from the medieval to the modern.

The best prevention against fatigue and motion sickness is being in good physical condition, which includes getting a good night's sleep. Though tempting, all anglers should avoid wee-hours partying the evening before the trip involving excessive eating and drinking. Handing over good money for a charter and being physically unable to enjoy the day has caused many anglers to fish the Gulf Stream once, never to return. Emotionally, physically and financially hurt, anglers who don't withhold their enthusiasm until after the trip can miss out on the event of a lifetime.

"The time for celebrating a charter trip is after you get back to the dock," Snow said. "You don't want someone else sitting in the chair when it's your turn to catch a fish."

Snow tells everyone about safety precautions and where conveniences are located while the twin diesel engines are warming up at the dock. He has everyone's best interest in mind because his business thrives on repeat customers.

On the ride to the Gulf Stream, the mate and captain are busy with navigation and preparing rods, reels and other fishing equipment. The education from watching their actions may be the best thing anglers take home from a charter trip.

"I encourage anglers to watch the mate rigging baits and ask all the questions they like," Snow said. "If they want to try their hand at rigging, that's fine, too."

Some captains want no one up in the tower during a trip, while others may occasionally allow anglers into their lofty domain. Anglers must always ask before climbing into the tower and tell other anglers when they are coming down the ladder for safety.

"Anglers can help the mate untangle lines, clear lines out of the way during a fight, help set outrigger pins, and many other things that are part of offshore fishing," Snow said. "There are no stupid questions on my charters. If you want to help out or want to know what we are doing, I really want you to ask."

Fish Witch II has three fighting chairs, as well as gimbal belts for fighting fish from a standing position if all chairs are filled. The mate and captain have their hands full with running the boat, handling leaders and gaffing fish when a fish is hooked and the battle enjoined. Anglers draw straws or cards to determine the order for fighting fish before the first strike occurs. They must also decide who will swivel the chairs, keeping the anglers sitting in them facing the fish.

When he hears the mate's cry, "Fish On!" and vaults into his seat in the fight chair, the excited angler is handed the rod. If the fish is very large and powerful, the mate binds the angler to the rod with a fighting harness. With the bond between angler and fish complete it finally hits home. This is no longer a dream. This is for real.

At the other end of the line might be a big "bull" dolphin, a leaping emerald streak skyrocketing above the Gulf Stream, or a "lit-up" blue marlin greyhounding across the surface, glowing with self-luminescence hues of blue. For some anglers, experiencing the thrill once in a lifetime is enough. For others, it's the beginning of a lifelong love affair, the screaming drag a siren's song that lures them into returning again and again. ◆

Wilmington writer Mike Marsh is a frequent contributor to Wildlife in North Carolina.

THE AMERICAN *Crow*

Written by F. Eugene Hester

Villain or Mischievous Black Beauty?

Crows may cause havoc with your newly planted corn or raid eggs or young from nests of other birds, but they are intelligent and adaptable birds with a brighter side, too. As society and our uses of the land have changed, our attitude toward this common bird has changed as well.

Here is a glimpse of how it was decades ago and how it is now.

Most goose hunts may be exciting and rewarding, but they are totally goose hunts. This one was different. Decades ago during the heyday of our Canada goose hunting in eastern North Carolina, Shelton Bridgers and I were hunkered down in a blind a mile south of Lake Mattamuskeet. What started out as a goose hunt developed into an exceptional crow hunt.

All morning as we waited and watched for incoming flocks of geese, we hoped to hear the honking calls of approaching Canadas. But what we heard most often was a quite different and unusual sound. It was more like the sound of distant announcements and music. We suspected that it was being broadcast from a speaker on a low-flying airplane. But we could not see an airplane, and the sound seemed to continue to come from the same direction and distance.

As we left the field, we asked about the mysterious sound. After a few inquiries we learned that a local landowner had been having so much trouble with crows raiding pecans from his trees that he had installed a loud speaker on a water tank in his pecan grove. When connected to a local radio station, it broadcast loud news and music all day throughout the pecan grove and beyond.

By following the sound, we soon located the landowner. He was elated when we told him we wanted to shoot the crows. He welcomed us with open arms, as if we were a godsend. He explained that his loud speaker device kept the crows away for a few weeks but the speaker had lost its effectiveness. Recently the crows seemed to be almost sitting on the water tank, listening to the music. They were back in large numbers, actively raiding his ripe pecans.

TODD PUSSER

F. EUGENE HESTER

F. EUGENE HESTER

A few decades ago, crow hunting was a favored way to hone wing-shooting skills in the off-season. Calls and decoys are part of the crow hunter's equipment.

The landowner eagerly watched from his porch as we carried our shotguns and boxes of shells to a drainage ditch with low vegetation. We each had mouth-blown crow calls, and as soon as we gave a few calls imitating excited crows, the birds began swarming around us. They came close, responding with their own excited calls.

Our shooting did not deter them and as some crows fell to the ground, the others just seemed to become more excited and determined to taunt us. Some crows even lit on low tree limbs and squawked while looking directly at us. It was as if they were harassing us just as they would a hawk or owl or some other threat.

We took turns reloading our gun while the other one maintained the frenzy by calling. The determined crows made easy targets, and when the shooting was over we had killed 18 crows from that one spot.

The landowner was elated, and by the time we returned to his house, he already had a large bag of pecans for each of us. He urged us to come back.

We did come back the following year with several of our hunting buddies, prepared to repeat the exciting hunt. But this time was different. Although we saw a lot of crows, they completely ignored our calls, flying by without so much as giving us a passing glance. We were surprised and puzzled, and somewhat embarrassed, too, because we had built such high expectations in our group.

Later we learned that the landowner had been so much impressed with our performance the previous year that he went to Washington and bought a crow call for himself. Almost every day as he rode through his pecan grove, he would blow on that call. Crows are smart birds, and they soon learned what it was. After that they completely ignored such calls.

In the late 1940s and '50s, crow hunting was also a favorite off-season form of hunting.

Our shooting did not deter them and as some crows fell to the ground, the others just seemed to become more excited and determined to taunt us.

Hunters would simply drive along country roads and stop at wooded spots. After going into the woods and finding a somewhat open area, they would hide behind vegetation and begin calling. If several hunters called, it increased the sound of excitement, and made the crows more active and less wary. It also kept the excitement high, which was especially important in giving a hunter time to reload his gun.

There were fewer houses outside of town back then, and almost no land was posted. The land was primarily agricultural, and farmers were eager to eliminate as many crows as possible.

If the crows were within hearing distance, they usually responded immediately after the calling started, and each individual hunt lasted only a few minutes. By that time they had either been shot or had become too wary to continue responding.

Then it would be on to the next stop a mile or two down the road. Oftentimes, an entire Saturday might be spent hunting in this manner. If a hawk responded, it made the hunt even better, because the crows also tried to harass it. That diverted attention from the hunters and made the crows more vulnerable.

In addition to crows and hawks, other animals sometimes responded to the crow calls, too. Gray foxes occasionally came running at full speed, probably anticipating an easy meal from what sounded like a wounded crow. Perhaps other foxes responded that were never seen, by approaching more cautiously and staying out of sight. Farmyard dogs often barked, but seldom came to investigate.

Some hunters killed dozens and even a hundred or more crows in a day. Some states even had crow-hunting competitions, with some pretty serious prizes, including new semiautomatic shotguns and state or even national championship recognition.

In some areas crows gather in large flocks to roost during the winter. These flocks may contain hundreds, even thousands of crows, and some in other states have been estimated in the millions.

In his book *Out Home,* John Madson, one of America's great natural history writers, wrote of several large winter crow roosts. He told of historical accounts of more than a century ago when there were 200,000 crows roosting at Arlington National Cemetery, 300,000 crows near Hainesport, N. J., and 200,000 in Davis Grove in Montgomery County, Pa. Most of these roosts were in relative small groves of about 20 or 25 acres.

Even so, these were small roosts compared to those he described in other locations, including an estimated 10 million crows in a central Kansas roost, and perhaps as many as 8 million in a roost near Oklahoma City.

Roosts like those attracted a lot of attention, and for people interested in eliminating crows, this provided an important opportunity. Madson described efforts to decimate crows at some of the roosts. Numerous canisters made of sheet iron or steel were each loaded with a stick of dynamite to which iron pellets or scrap iron were added. During the day when crows were away, numerous canisters were hung in the trees below where the crows would be roosting. The dynamite was wired so that the charges in all of the canisters could be detonated simultaneously.

Thousands of crows were killed at each site, and at one site in Wisconsin well over 5,000 crows were killed, and at a roost near Harrisburg, Ill., 100,000 crows were reported to have been picked up.

F. EUGENE HESTER

Crows dislike raptors, including the great horned owl. Placing an owl decoy in a highly visible spot like a fence post will draw crows from all around.

Crows are today recognized as intelligent, adaptable and opportunistic animals.

F. EUGENE HESTER

Crows are highly social birds and often can be found in groups that include a breeding pair and offspring. They will work together to drive off predators, a behavior called mobbing.

Ridding pecan groves of pesky crows is as welcome today as it was long ago. But in other ways we now see the crow in a more neutral or positive way.

Where there once were large blocks of farmland, there are now housing developments or shopping centers. And even where there are still large farms or wooded tracts, much of the land is now posted. Public attitude has changed, too, and crows are less frequently seen as villains, destroying crops and raiding nests of other birds, but rather as part of a naturally functioning ecosystem. Their traits of eating insects and carrion are recognized as redeeming features.

Today there are even restrictions on when crows may be hunted. They are protected during the nesting season, and at other times they can only be hunted on certain days of the week. These restrictions came about after the United States and Mexico agreed on the need to regulate harvests of an entire group of jays and crows.

Crows are today recognized as intelligent, adaptable and opportunistic animals. They might be as readily seen along busy highways as in agricultural fields. When they feed along roadsides pecking at squirrels or rabbits that could not cross the road fast enough to avoid vehicles, they are adept at knowing just when to move to avoid becoming a traffic casualty themselves.

In addition to insects and carrion, they mostly eat seeds, nuts, fruits, grain, eggs and small animals. Crows continue to thrive in agricultural areas, but they have learned to also live and feed in cities, hanging out in housing or picnic areas to raid trash containers and even tearing open plastic garbage bags to find food.

Crows mate in late winter, and both the male and female build the nest together. Made of twigs, grasses and tree bark, the nest is usually made high in a pine or other evergreen tree. There they lay three to eight eggs and both parents take turns incubating them for 18 days. The young leave the nest four or five weeks later. In Southern states, the nesting season is long enough for crows to nest twice each year.

Some crows, especially those in Canada, migrate southward in the fall. During the winter, they begin flying to the communal roost about an hour before sunset and continue until dark. Often the roost is even in trees within a city. Perhaps they are taking advantage of the few degrees of additional warmth generated by buildings and traffic.

At dawn they leave the roost and may fly long distances in lines radiating into the countryside to feed. While feeding, one or two crows remain on a tall tree or other vantage point as sentries, and warn feeding crows if danger approaches.

As times and attitudes have changed, crows might well have less concern about hunters with shotguns and crow calls or even dynamite in their roosts. But beginning in 1999,

F. EUGENE HESTER

Crows are unique in that they have been observed fashioning and using tools. In some areas West Nile virus has affected crow populations.

crows faced a new threat, one which they could not avoid as they could by learning to recognize hunters, or by the use of sentries. Mosquito-borne West Nile virus hit crows particularly hard. In 1999, more than 5,000 crows were found dead in New York City in four months. Scientists believed that West Nile was 100 percent fatal for crows.

West Nile is still a concern, but the numbers of crows and other birds killed by the virus have declined. Apparently as the virus evolved and moved west, its lethality lessened.

Like the adaptable coyote, crows have been able to withstand and even thrive in spite of all assaults imposed upon them. I suspect that crows will continue to show their resilience and for a long time remain one of our more common and interesting birds. ◆

Gene Hester is a frequent contributor to Wildlife in North Carolina. *His latest book, "Wood Duck Adventures," is available from Five Valley Press.*

Many spiders use webs to trap flying insects. They spin strong silk fibers for other uses, too. Let's take a closer look at

Spider Webs

written by Buffy Silverman / illustrated by Amelia Hansen / nature activity by Anne M. Runyon

A black and yellow garden spider hangs upside down, waiting in the center of her web. With her eight legs, she feels the web shake. A crane fly has flown into it. As the fly struggles to get free, its large wings tangle in sticky silk. The spider dives at the fly. She wraps it in silk, then bites the gangly insect. Now the crane fly cannot move. The spider carries her meal to the center of the web and sucks it dry.

spider
spindly, nimble
spinning, threading, weaving
web complete, snare discreet
flying, buzzing, sticking
tangled, trapped
fly

ORB WEAVERS

Black and yellow garden spiders are part of a group of spiders called orb weavers. Orb weavers build wheel-shaped webs.

Another North Carolina orb weaver is the banana spider. With a long, narrow body shaped like a banana, the spider builds a strong web to trap a meal, but the web also keeps it from becoming another animal's dinner. Banana spiders weave a barrier web on one or more sides of the web that blocks birds and damselflies that might otherwise capture the spider.

How does an orb weaver build its trap? The spider grips onto a grass stem, branch or other strong surface. She lifts the lower part of her body, exposing glands called spinnerets. Silk thread comes out of the spinnerets. Several strands of silk join into one strong thread. The free end of the thread drifts in the breeze. It blows to another stem or branch, forming a bridge.

The spider crawls along the bridge and lays down new silk lines. Soon her web looks like the spokes of a bicycle wheel. Then she starts to make sticky silk. She lays sticky threads across the spokes, forming a spiral. These sticky threads trap flying insects.

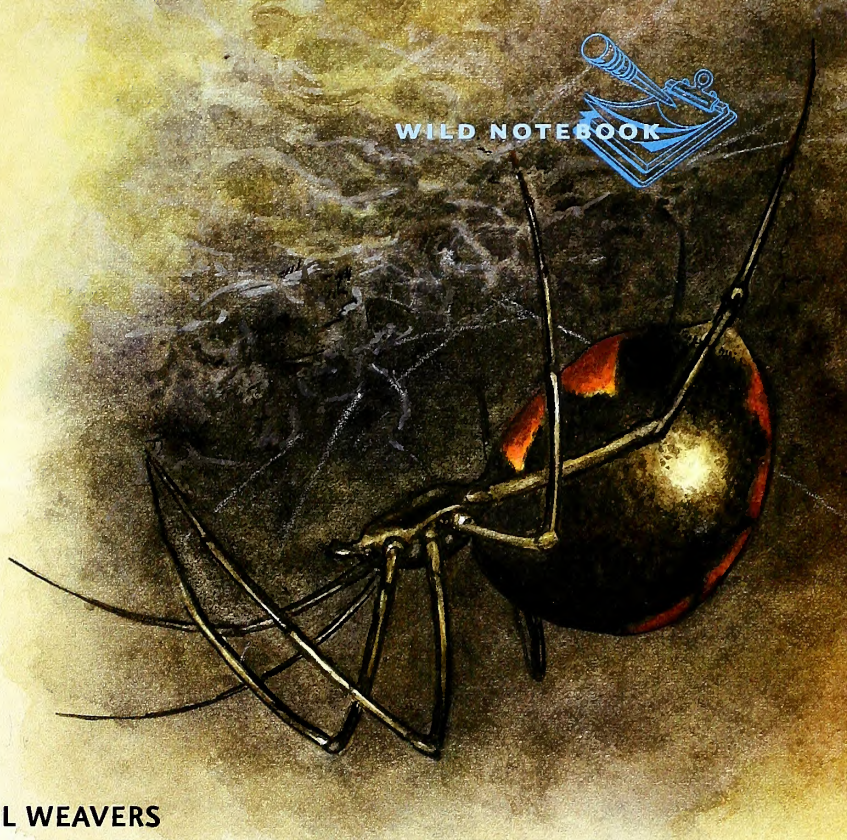
It takes an orb spider several hours to finish her web. Each morning she eats the silk threads, then rebuilds her web.

COBWEB WEAVERS

Compared to an orb web, a cobweb looks tangled and messy. Cobweb weavers build their webs under logs, in low bushes, in basements, crawl spaces, and other dark corners of a house. Flies and other insects get trapped in these sticky silk webs.

This sticky web silk also protects cobweb spiders from some predators. Wasps try to capture spiders. But if a hunting wasp gets tangled in sticky silk, the cobweb spider wraps it up and bites it.

Black widow spiders are cobweb weavers. They weave webs under stones and woodpiles, in mouse holes and in barns. During the day they hide in silken tunnels in their webs. Black widow spiders are timid and do not usually bite people. But their bites are venomous.



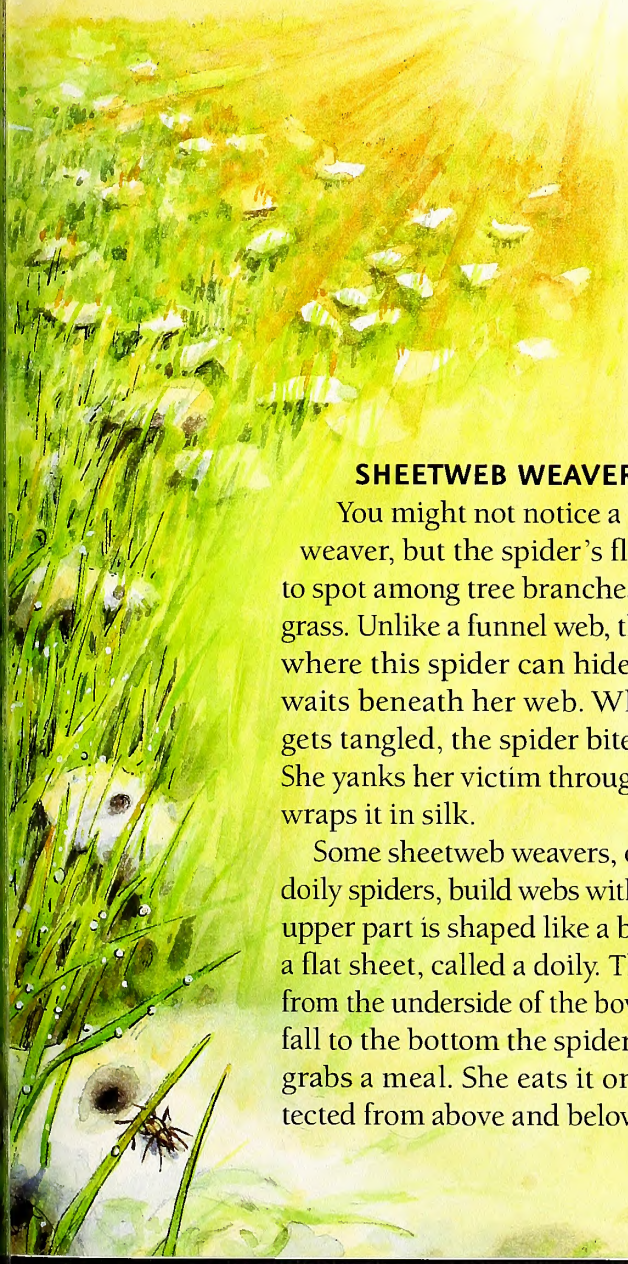
FUNNEL WEAVERS

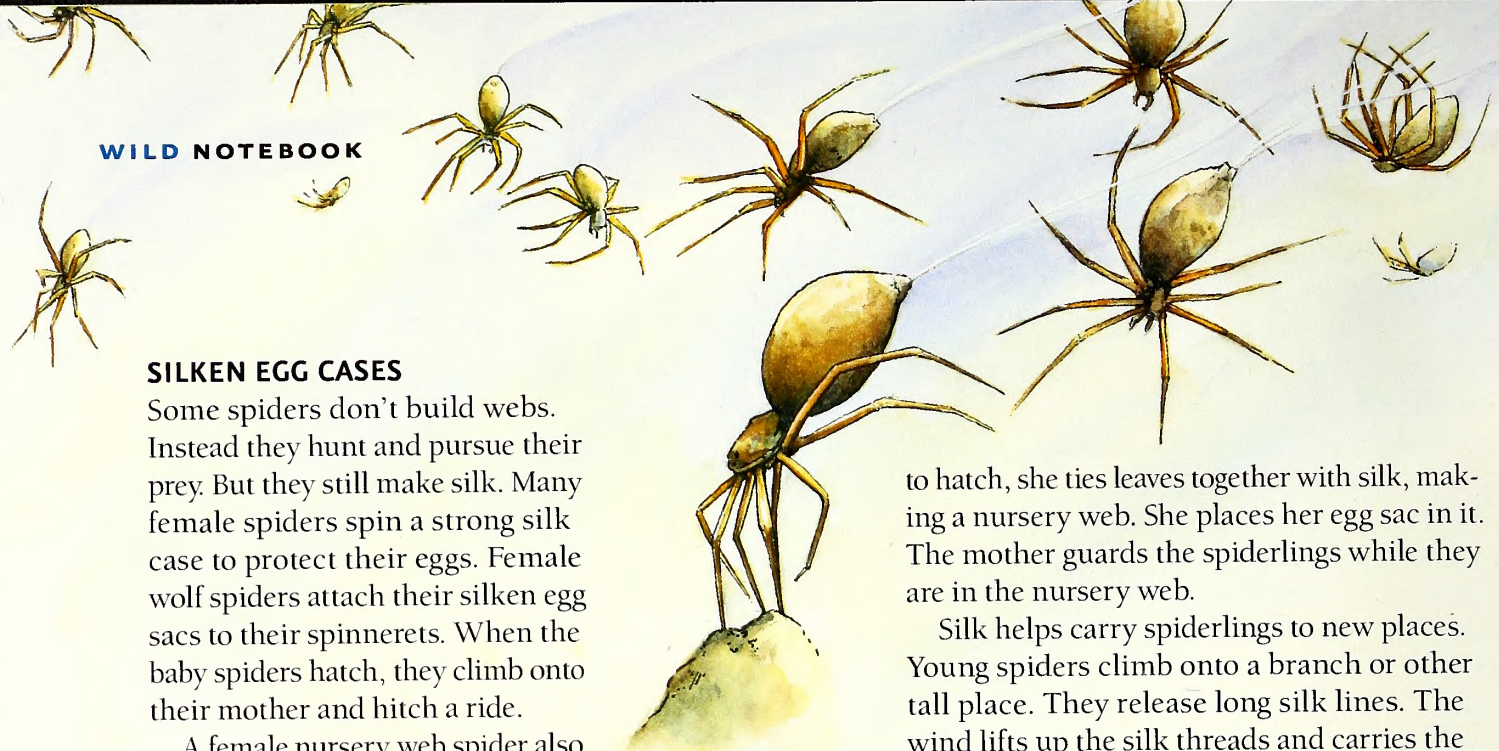
Hike through a field in the early morning. Drops of dew sparkle in the sunlight. The dew clings to flat webs stretching across grass and bushes. Look carefully and you see a small tube in each web. A funnel web spider hides in this funnel tube, waiting for a meal. The flat webs made by many funnel web spiders are not sticky, so the spider must move quickly. When it feels vibrations, it dashes out before its prey can escape. It bites its prey and drags it back to its funnel. There it eats, safely hidden from other animals.

SHEETWEB WEAVERS

You might not notice a tiny sheetweb weaver, but the spider's flat web is easy to spot among tree branches, bushes, and grass. Unlike a funnel web, there is no tube where this spider can hide. Instead she waits beneath her web. When an insect gets tangled, the spider bites from below. She yanks her victim through the web and wraps it in silk.

Some sheetweb weavers, called bowl and doily spiders, build webs with two parts. The upper part is shaped like a bowl. Beneath is a flat sheet, called a doily. The spider hangs from the underside of the bowl. When insects fall to the bottom the spider reaches up and grabs a meal. She eats it on the doily, protected from above and below by webbing.



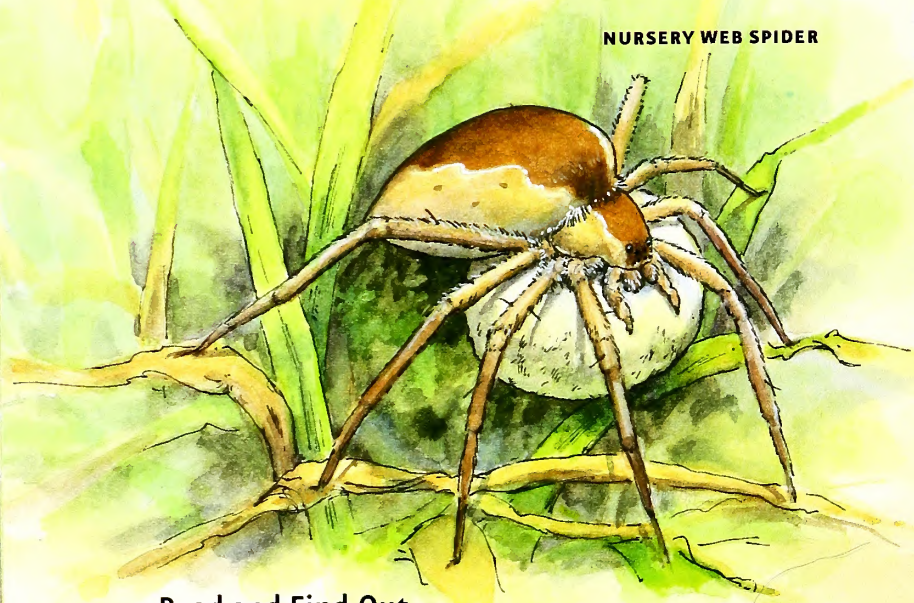


SILKEN EGG CASES

Some spiders don't build webs. Instead they hunt and pursue their prey. But they still make silk. Many female spiders spin a strong silk case to protect their eggs. Female wolf spiders attach their silken egg sacs to their spinnerets. When the baby spiders hatch, they climb onto their mother and hitch a ride.

A female nursery web spider also spins a silken cocoon for her eggs. She carries the egg sac underneath her body. When the eggs are ready to hatch, she ties leaves together with silk, making a nursery web. She places her egg sac in it. The mother guards the spiderlings while they are in the nursery web.

Silk helps carry spiderlings to new places. Young spiders climb onto a branch or other tall place. They release long silk lines. The wind lifts up the silk threads and carries the spiderling to a new home. Large numbers of ballooning spiderlings drift through the air on fall days.



NURSERY WEB SPIDER

Get Outside

Grab a notebook and pen, and head outside to search for spider webs. Look for webs spanning tall grasses or tree branches, in dark corners of barns and garages, and on porches and decks. Quietly watch the web and spider. Describe what you see in your notebook. Make a list of your favorite words from your description. Use these words to write a short poem about a spider web. You can borrow words from the diamante (diamond-shaped) poem on the previous pages to help you start. Fun poems to write are shape-poems like the diamante, or acrostics, which start each line with each letter of a word, such as WEB or SPIDER.

Read and Find Out

- "Are You a Spider?" by Judy Allen, Kingfisher, 2003.
- "The Magic School Bus Spins a Web: A Book about Spiders" by Joanna Cole, Scholastic, 1997.
- "Nic Bishop Spiders" by Nic Bishop, Scholastic, 2007.
- "Spiders" by Seymour Simon, HarperCollins, 2007.
- "Spiders and Their Webs" by Darlyne Murawski, National Geographic Children's Books, 2004.
- "Spinning Spiders: Let's-Read-and-Find-Out Science" by Melvin Berger, HarperCollins, 2003.

Find out more about Project WILD Workshops and literature at the Wildlife Commission's website at ncwildlife.org.

WOLF SPIDER

The Wildlife Endowment Fund

An Investment for the Future

Established in 1981, the Wildlife Endowment Fund allows the Wildlife Resources Commission to accept tax-deductible contributions for wildlife conservation. Money from the sale of lifetime licenses is also placed in this fund. Your donation or purchase will ensure that North Carolina will have a rich wildlife heritage for generations to come.

Lifetime License Form

Infant and Youth *(check appropriate block)*:

☐ Sportsman Infant $200
(under 1 year old—Application must be received before applicant has attained 1 year of age.)

☐ Unified Sportsman/Coastal Recreational Fishing Infant $275
(under 1 year old—Application must be received before applicant has attained 1 year of age.)

☐ Sportsman Youth $350
(ages 1 through 11—Application must be received before applicant has attained 12 years of age.)

☐ Unified Sportsman/Coastal Recreational Fishing Youth $450
(ages 1 through 11—Application must be received before applicant has attained 12 years of age.)

A copy of the birth certificate must accompany applications for infant and youth licenses. Birth certificate documentation cannot be returned.

Note: Pending satisfactory completion of the hunter safety course, persons who possess infant or youth licenses may exercise the privileges thereof when accompanied by an adult who is properly licensed to hunt in North Carolina. "Accompanied" is defined as maintaining a proximity to the hunter which enables the adult to monitor the activities of, and communicate with, the hunter at all times.

Adult (age 12 or older) *(check appropriate block)*:

☐ Comprehensive Inland Fishing $250
(N.C. residents only—includes basic inland fishing, trout & trout waters on game lands)

☐ Comprehensive Hunting $250
(N.C. residents only—includes basic hunting, big game, game lands & N.C. waterfowl)

☐ Sportsman $500
(N.C. residents only age 12 or older—includes basic hunting & inland fishing, big game, game lands, trout & N.C. waterfowl)

☐ Coastal Recreational Fishing $250
(N.C. residents only—includes coastal recreational fishing)

☐ Unified Sportsman/Coastal Recreational Fishing $675
(N.C. residents only—includes same privileges as the Sportsman, plus coastal recreational fishing)

A federal waterfowl stamp must be purchased separately for all N.C. hunting licenses.

Note: On or after July 1, 1991, a person, regardless of age, may not procure a hunting license or hunt in North Carolina without producing a certificate of competency for completing the hunter safety course or a hunting license effective prior to July 1, 1991, or by signing the statement below that he or she had such a license.

Check appropriate block and attach required copy:

☐ Copy of Prior Year Hunting License

☐ Copy of Hunter Safety Certificate of Competence

☐ In lieu of copy, I am signing the statement below:

Statement: I certify that I was a licensed hunter prior to July 1, 1991.

Signature _____ Date _____

Visit us online at www.ncwildlife.org or call 1-888-248-6834 for a complete list of lifetime licenses, including those for nonresidents and 65 and older.

Lifetime License

Complete the following information if applying for a lifetime license. Be sure to check appropriate block(s) on reverse side *(please print legibly)*:

Name of Applicant _____

Daytime Phone _____

Mailing Address _____

Resident Address _____

County _____ Date of Birth _____ Driver License # _____

E-mail Address _____

Is this license a gift? ☐ Yes ☐ No If yes, mail license to ☐ Donor or ☐ Applicant.

License Donor's Name *(if applicable)* _____

Donor's Telephone # _____

Donor's Mailing Address _____

City _____ State _____ Zip _____

Method of Payment: ☐ Check ☐ VISA ☐ MasterCard

Acct. # _____ Expires _____

Print name exactly as it appears on credit card _____

Cardholder's Signature _____ Date _____

Personalize your Lifetime License for an additional $5:
Indicate your selection of letters, numbers, dashes, periods, commas and /or blanks up to 6 spaces: ___ ___ ___ ___ ___ ___

Indicate your personal message including letters, numbers, dashes, periods, commas and /or blanks up to 21 spaces:
___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___
___ ___ ___ ___ ___ ___ ___ ___ ___ ___

Signature of Applicant or Donor _____ Date _____

Note: Only adult lifetime licenses may be purchased by phone or online (VISA or MasterCard only). Call toll-free (1-888-248-6834) or visit us at www.ncwildlife.org. Use this form to purchase infant and youth lifetime licenses by mail.

Tax-Deductible Contribution

☐ I wish to make a tax-deductible contribution to the Wildlife Endowment Fund. Enclosed is my check for $ _____. *(Credit card payments cannot be accepted.)*

Name _____

Daytime Phone _____

Mailing Address _____

City _____ State _____ Zip _____

Make checks payable to: *Wildlife Endowment Fund*

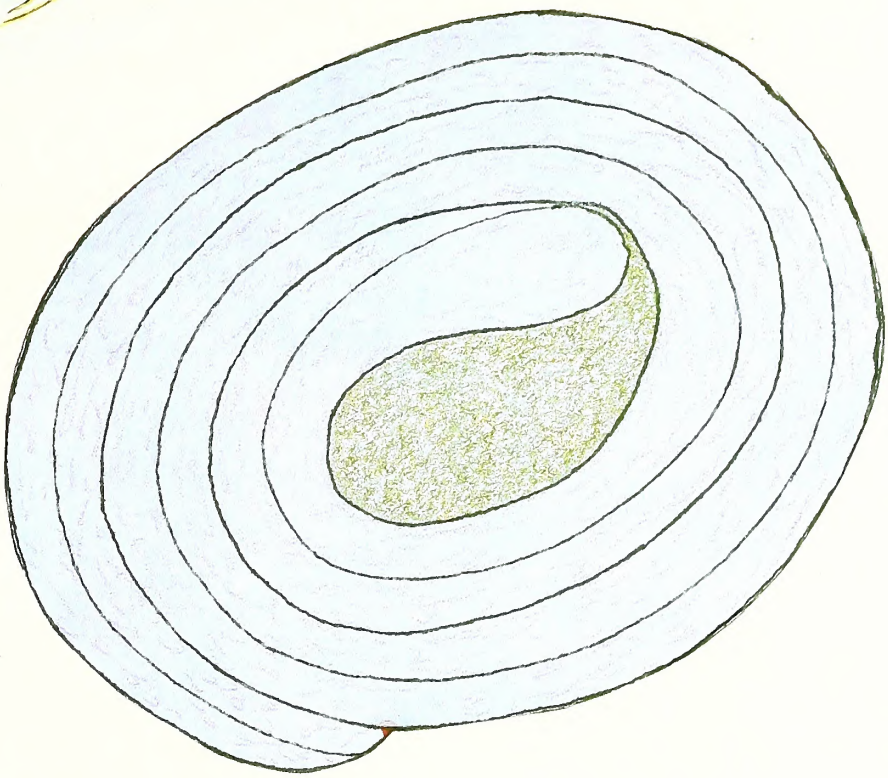
Transactions are not considered final until the check has cleared the bank. Items purchased with a returned check will be made invalid. A service charge of up to $25 will be charged on any returned check. (N.C.G.S. 25-3-506)

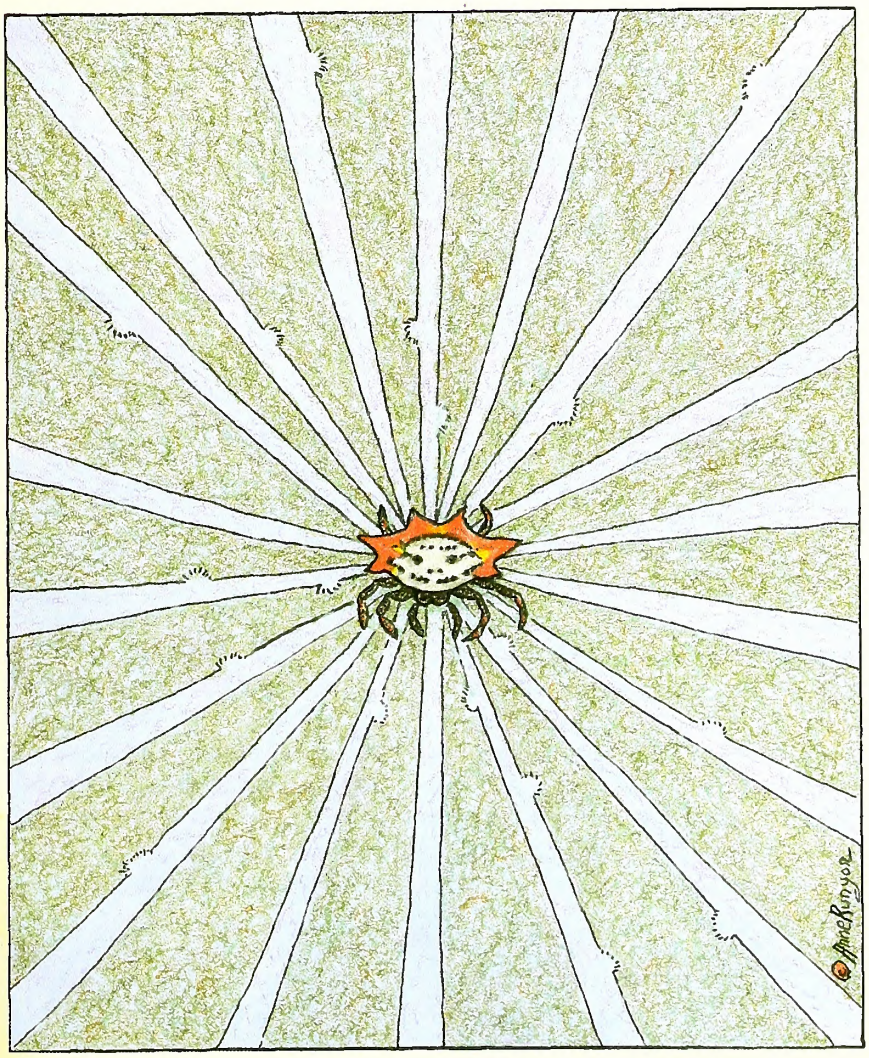
Mail completed application and payment to:
NCWRC, License Section, 1707 Mail Service Center, Raleigh, NC 27699-1707

Office location: *NCSU Centennial Campus, 1751 Varsity Drive, Raleigh, N.C. 27606*
Telephone: 1-888-248-6834 (2HUNTFISH)

Spiny Orb Weaver

Each night, this small spider spins a large web at the edge of the woods. Waiting for her prey, she rests in the center of her web where there are no sticky spiraling strands.





Help the Spiny Orb Spider rebuild her web

1) Cut out the oval design.
2) Beginning at the red dot, cut along the black line, spiraling inside around the dark center and then back out again, like following a labyrinth.
3) Place your spiral on the spiny orb spider's web with the spider in the open center.
4) Glue the sticky spirals in place on the web.

back porch

NEWS and NOTES

Edited by Mike Zlotnicki

State Record Striped Bass Landed at Hiwassee

When he launched his 17-foot Hydra-Sports on Hiwassee Reservoir on the morning of March 31, Tyler Shields expected he'd catch a few largemouth bass, maybe a smallmouth bass or two. What he didn't expect to catch, however, was a freshwater striped bass state record.

Shortly before noon, the 17-year-old from Murphy reeled in a massive 66-pound striped bass, using a black Zoom trick worm and 10-pound test on a Bass Pro Shops Bionic Blade rod. Shields' state record striped bass eclipses the previous one, also caught in Hiwassee, by nearly 12 pounds. That fish weighed 54.2 pounds and was caught by Larry Keith Verner, also of Murphy, on June 6, 1991.

When he first hooked the giant fish, Shields, who was fishing with his cousin, Logan Howard, 15, and friend, Caleb Davis, 15, thought that it was a catfish. However, when he got the fish to the boat, he saw that it was "a big striper." He didn't realize how big it was until he got to the dock and a friend's father, Brian Kilpatrick, suggested that it might be a new state record and recommended that Shields get it weighed.

He had the fish weighed on N.C. Department of Agriculture-certified scales at Interstate Welding and Steel Supply, in Marble.

Powell Wheeler, a district fisheries biologist for the N.C. Wildlife Resources Commission, verified that the behemoth was a striped bass and exceeded the existing state record.

Shields, who has a lifetime fishing license, prefers trying his luck on Hiwassee because of its close proximity to his home and because he knows Hiwassee so well—not surprising since it's the only lake he's fished since he picked up a rod and reel four years ago.

POWELL WHEELER/NCWRC

As evidenced by the two state records, Hiwassee Reservoir harbors some very large striped bass, particularly for reservoir striped bass, which typically don't get as large as their coastal counterparts.

"The rarity of striped bass in Hiwassee coupled with the abundance of forage fishes in the reservoir are the main reasons why Hiwassee has produced the last two freshwater fishing state records for striped bass," Wheeler said. "In the middle of Hiwassee where stripers are often found, there is simply a lot of food and few other predators to compete with."

Shields' record is unique in that it not only breaks the freshwater state record, but also exceeds the current saltwater state record as well. That striper, which was caught off Oregon Inlet in 2011, weighed 64 pounds, according to the N.C. Division of Marine Fisheries, which recognizes saltwater state records of fish from oceans, estuaries and coastal rivers.

e NEWSLETTER

Get N.C. Wildlife Update—news including season dates, bag limits, legislative updates and more—delivered to your Inbox from the N.C. Wildlife Resources Commission. Sign up at ncwildlife.org/enews.

Spotted Bass Record Doesn't Hold Up

It was a big fish and a nice catch for Surry County angler Terry Trivette. It was not, however, the new spotted bass state record.

Results from genetic testing conducted on Trivette's catch came back in April and determined that the fish he caught from Lake Norman on Feb. 11 was not a pure spotted bass but rather a hybrid from a largemouth bass female and spotted bass male.

Because the fish, which currently swims in Bass Pro Shops' 23,000-gallon freshwater tank in Concord, is a hybrid, it doesn't qualify for a state record. The N.C. Wildlife Resources Commission's Freshwater Fishing State Record Program does not recognize hybrids, with the exception of hybrid striped bass, which are produced and stocked by the agency.

Trivette caught the fish on a Rapala DT-6 crankbait. He contacted commission staff for a verification of the species. Kin Hodges and Brian McRae, biologists with the commission's Division of Inland Fisheries, met with Trivette on Feb. 12 and 13. After careful inspection of the fish, both biologists determined that most of the fish's characteristics were consistent with a hybrid between a largemouth bass and a spotted bass—an increasingly common occurrence, particularly in larger reservoirs where spotted bass have been introduced.

To confirm their identification, Hodges took a small piece of the fish's fin and shipped it to Dr. Joe Quattro, a professor in the Marine Science Program and Biological Sciences at the University of South Carolina, for testing. Genetic analysis on a fin clip takes a few weeks; however, it is the best method of determining a fish's genetics that does minimal damage to the fish and keeps it alive.

JENNY HARRIS/NCWRC

Dixie Deer Classic drawing winner

Jill Baker of Traphill was the winner of a Leupold rifle scope drawing at the 32nd Annual Dixie Deer Classic. Anybody who bought or renewed a subscription to *Wildlife in North Carolina* was entered. Baker, a teacher's assistant at Roaring River Elementary School, is married with two sons. The eldest was on the East Wilkes High School shooting team. Baker said it's about time for her to get her own gun so she can use the scope.

Thanks to all who came by the commission display at the Classic.

Commission Biologist Wins Prestigious Award

MELISSA McGAW/NCWRC

Wildlife Diversity Biologist Christine Kelly of the N.C. Wildlife Resources Commission has been awarded a 2011 Recovery Champion Award from the U.S. Fish and Wildlife Service.

The award, which was given to nine individuals across the country, honors U.S. Fish and Wildlife Service employees and partners for outstanding efforts to conserve and protect threatened species of fish, wildlife and plants. Kelly was honored for her work with the Northern flying squirrel, an endangered species found isolated in small populations in only the highest mountains in North Carolina.

"Recovery champions are helping listed species get to the point at which they are secure in the wild and no longer need Endangered Species Act protection," said Service Director Dan Ashe. "These groups and individuals have done amazing work in helping to bring dozens of species back from the brink of extinction, while improving habitat that benefits many other species and local communities."

Kelly's work included designing launch poles to help the squirrels cross Cherohala Skyway in Western North Carolina. The crossing structures, installed by Duke Energy in 2008, give the small mammals access to more foraging habitat, den sites and mates.

"Working with threatened and endangered species can be a challenge, so every conservation success is worth celebrating," Kelly said. "I've been so pleased with our success with these squirrels, and I like that my coworkers and I on the mountain diversity crew spend time working together on each other's projects. This is a success for all of us, and habitat improvements for the Northern flying squirrel will also mean good things for other species such as the Weller's salamander and Northern saw-whet owl."

As part of Kelly's work, she identifies, examines and weighs the squirrels, and places ear tags on them.

The U.S. Fish and Wildlife Service award also honored Kelly for a partnership with the U.S. Forest Service and Appalachian Mountain Joint Ventures to plant red spruce, an important habitat for the squirrel. The balsam woolly adelgid has reduced Fraser fir trees and the hemlock woolly adelgid is reducing high elevation Eastern hemlocks, both important conifers for the squirrel.

Kelly is also working with Virginia Tech on a vocalization study of the squirrels using acoustic detectors to help locate the species. This could be used for rapid surveys and long-term monitoring of the squirrel.

Kelly has worked for the Wildlife Commission since 2005. Before that, she worked for the U.S. Forest Service. She lives with her husband, Dan Bennett, in Asheville.

CALENDAR OF EVENTS

July 7

Head to the mountains and check out the 49th Annual Coon Dog Day in Saluda. You'll have live music, food, a 5K run, a parade and pile of coonhounds. Visit saluda.com for more information.

July (many dates)

Don't wait until the last minute to get enrolled in Hunter Education. This 10-hour minimum course is required for all first-time hunting license buyers in North Carolina. Certification is accepted in every state and province in North America. When folks realize dove season opens in September classes get booked. The courses are free. Go to ncwildlife.org/learning.asapx to find one near you.

August 4–5

Get your second amendment on at the Dixie Gun & Knife Show. It happens at the Jim Graham Building at the N.C. State Fairgrounds. Guns, knives, collectables and other gear will be available. Go to dixiegunandknifeshow.com for information and a coupon.

August 17–19

Check out the end-of-season deals and new 2013 boats at the Carolina Fall Boat Show & Sale. Wander around the Jim Graham Building at the N.C. State Fairgrounds and dream a little. Or bring a checkbook and take one home. Visit ncboatshows.com to learn more.

Readers should check with the contact listed before traveling to an event. Items for listing should be conservation-oriented and should be submitted at least four months in advance to mike.zlotnicki@ncwildlife.org, or call 919-707-0175.

N.C. Wildlife Resources Commission to Survey Anglers

If you're one of more than 800,000 anglers in North Carolina who holds a current freshwater fishing license, you may have a chance to participate in a study designed to determine anglers' views of and preferences for freshwater fisheries management in North Carolina.

Starting in April, the N.C. Wildlife Resources Commission began mailing a "2012 North Carolina Freshwater Angler Survey" to a random selection of 9,000 resident freshwater fishing license holders. The survey consists of 37 questions that assess the management expectations, fishing preferences, and levels of participation of freshwater anglers in North Carolina.

While the survey is voluntary, angler participation is critical. The more anglers who respond to the survey, the better information the agency will have about anglers' views of freshwater fisheries management in North Carolina.

"The commission strongly encourages anglers who receive the survey to fill it out and return it by July 31," said Kerry Linehan, a human dimensions biologist for the commission. "Studies like the 2012 Freshwater Angler Survey are part of the process of evaluating the state's fisheries so that the commission can make better management decisions and improve fishing experiences for all anglers."

The commission will use the data taken from the survey, in addition to biological data, data collected by surveying anglers on specific bodies of water, and other forms of public comment, to help it make fisheries management decisions and program modifications that, ultimately, will improve fishing opportunities for all anglers. The final report will be available in January 2013.

For more information on fishing in public, inland waters, visit ncwildlife.org/fishing.

Wildlife Commission Offers Camp Outdoor-Rageous Again This Summer

The N.C. Wildlife Resources Commission has scheduled Camp-Outdoor-Rageous, a free summer program for teens, for July 9–13 at its Centennial Campus Center for Wildlife Education in Raleigh.

Open to youth ages 13 to 17, the weeklong day camp builds self-reliance while teaching outdoor skills and conservation.

Activities take place on the Centennial Campus and Lake Raleigh. The daily camp times are 9 a.m.–4 p.m. Teens must apply in advance. Admission is based on their response to a wildlife questionnaire.

Campers will build a fire without matches, learn to follow a wild animal trail, catch and cook fish, and practice archery. Additionally, campers will:

- Identify animal tracks and signs
- Tie flies and practice fly casting
- Cook and taste game meat
- Build a shelter in the woods
- Use a map and compass
- Trap and release small mammals
- Practice knot tying

"At the end of the week, we hold our version of the 'Amazing Race' through the woods, with contestants putting their new outdoor skills to use," said Ann May, a wildlife education specialist at the Centennial Campus Center for Wildlife Education. "This is a very hands-on, fun camp that keeps you busy, every step of the way."

For more information, contact May at 919-707-0207 or ann.may@ncwildlife.org.

IN SEASON

In July and August, these seasons are open in North Carolina:

Hatchery-Supported Trout Waters: Through February 28, 2013

Crow: Through July 28–Wednesday, Friday and Saturday of each week plus Independence Day.

There is no closed season or bag limit for groundhog, coyote, striped skunk, nutria and armadillo. There is an open season for taking beaver with firearms or bow and arrow during any other open season for the taking of wild animals.

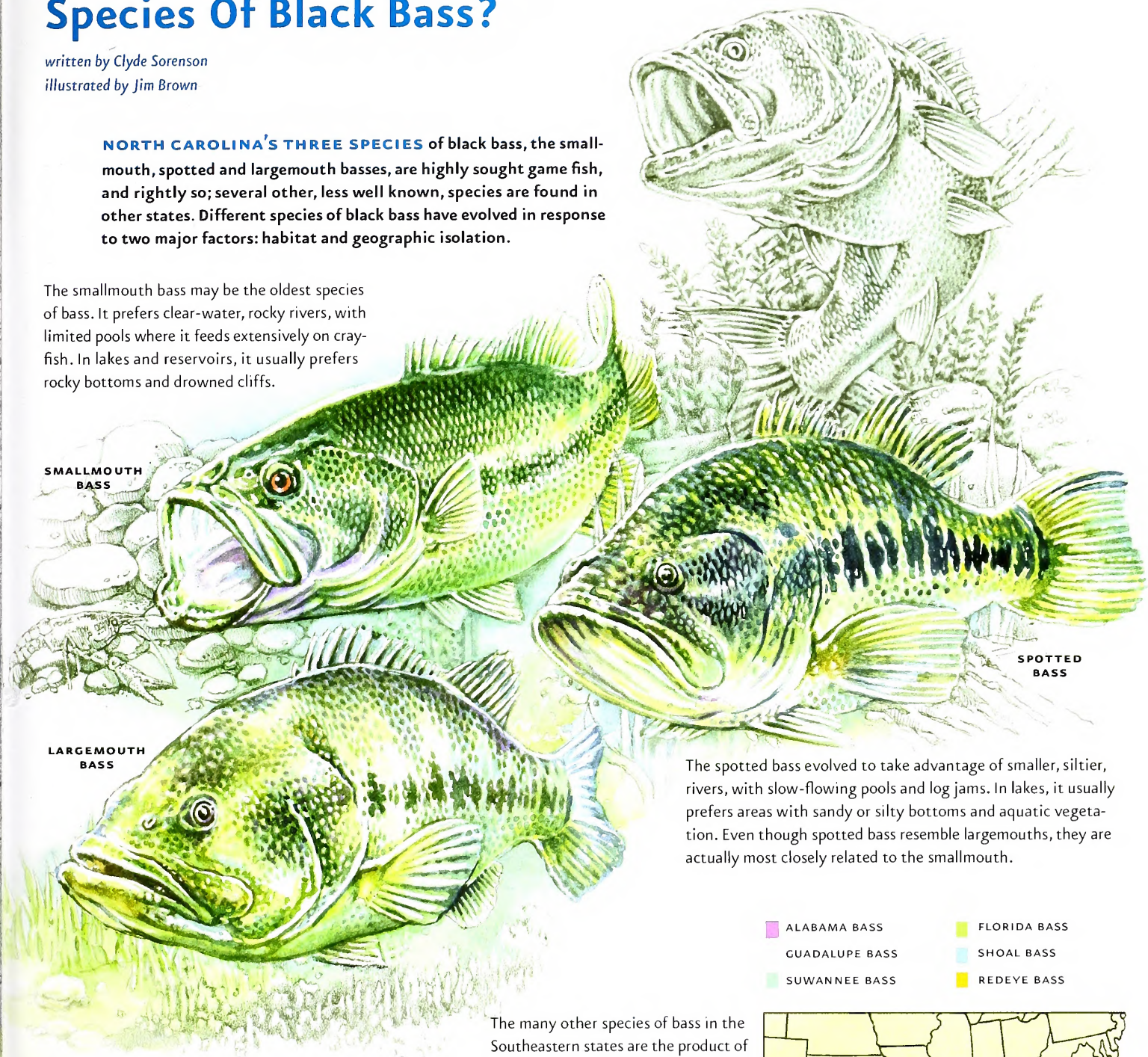
Check the latest *North Carolina Inland fishing, Hunting and Trapping Regulations Digest* for bag limits and applicable maps or visit ncwildlife.org.

Why Are There So Many Species Of Black Bass?

written by Clyde Sorenson
illustrated by Jim Brown

NORTH CAROLINA'S THREE SPECIES of black bass, the smallmouth, spotted and largemouth basses, are highly sought game fish, and rightly so; several other, less well known, species are found in other states. Different species of black bass have evolved in response to two major factors: habitat and geographic isolation.

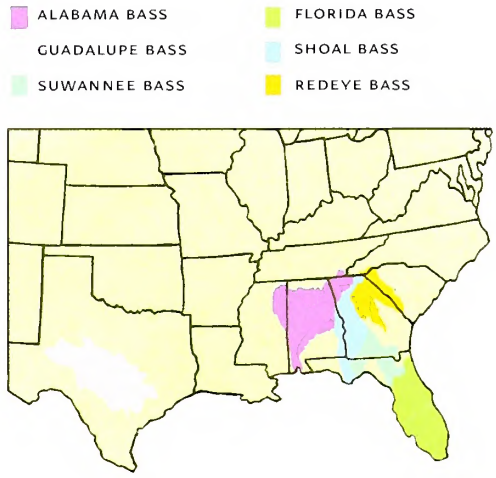
The smallmouth bass may be the oldest species of bass. It prefers clear-water, rocky rivers, with limited pools where it feeds extensively on crayfish. In lakes and reservoirs, it usually prefers rocky bottoms and drowned cliffs.



The spotted bass evolved to take advantage of smaller, siltier, rivers, with slow-flowing pools and log jams. In lakes, it usually prefers areas with sandy or silty bottoms and aquatic vegetation. Even though spotted bass resemble largemouths, they are actually most closely related to the smallmouth.

The largemouth bass developed in the nutrient rich, warm, highly productive lower reaches of large streams. It prefers areas with muddy bottoms and abundant aquatic vegetation. Its proportionately larger mouth and faster growth rate, compared to the other bass, are both adaptations to the greater diversity and abundance of prey in the habitats it prefers.

The many other species of bass in the Southeastern states are the product of geographic isolation of watersheds and unique habitat requirements. In North Carolina, the largemouth was originally found in the rivers of the Atlantic slope only as far north as the Tar River; the smallmouth was restricted to the far western streams that drain into the Mississippi.



Famous Last Words

written by Jim Dean

There is nothing whatsoever original about any of this because you have surely heard every one of the following remarks, observations or clichés. Indeed, it is very likely that those in the first category—"Famous Last Words"—have passed through your very own lips more often than you'd care to admit (for shame). There's no point in denying it because I have heard you. And, forsooth, I am no less guilty. On a brighter note, this merely reflects our common bond of shared experience gained over many years of obsessive angling.

I also suspect that most of the other observations regarding guides, enduring myths, niggling prejudices and the occasional unexpected small delight (or misfortune) will also seem quite familiar. I've no doubt you could add some choice contributions of your own.

"Just yank on it; your lure will come loose."

ILLUSTRATION BY JACKIE PITTMAN

"Go ahead and cast; don't worry about hooking me."

FAMOUS LAST WORDS:

- "I don't see any wasp nest."
- "Just yank on it; your lure will come loose."
- "Don't worry, we've got plenty of ice (beer, bug dope, flashlights, gas)."
- "That storm is going around to the north."
- "You saw me put my tackle box in the boat, didn't you?"
- "These crackers are really good with boiled eggs, pork 'n beans and potted meat."
- "It's not as deep as it looks."
- "I've never heard of anybody getting ticks and chiggers in a boat."
- "I forgot the net and camera, but that just guarantees we'll catch a whopper."
- "Gun it; we can make it."
- "It's easy to pick out all the bones."
- "What moccasin?"
- "I know I charged that battery all night."
- "Let him land and get settled, then swat him."
- "I didn't bring any sunscreen, but that's okay because I never burn."
- "It always started before."
- "Go ahead and cast; don't worry about hooking me."
- "Nah, that dock (deck) ain't slippery."
- "I just checked that knot a few minutes ago, so I know it's OK."
- "I'll pick you up at 4 a.m."

THINGS YOU NEVER HEAR A FISHERMAN SAY:

- "I have no idea what that fish weighed."
- "I've got way too many lures."
- "What's a backlash?"
- "What time is it getting to be?"
- "I didn't catch a single fish."
- And, the all-time most unlikely statement you'll never hear: "Nope, they weren't biting at all last week."

ENDURING MYTHS:

- Just clip the line close and that 4/0 hook will rust out of that fishes' throat in no time.
- Spinning line won't twist if you use a swivel.
- Modern bait-casting reels are foolproof.
- The secret to fishing is knowing how to hold your mouth right.
- Trout are harder to catch than bass (yet you seldom get skunked fishing for trout and sometimes fish all day without even getting a strike from a bass).
- Taking a kid fishing is sure to be an immensely rewarding experience (OK, there may be the random exception).

THINGS YOU HATE TO HEAR YOUR GUIDE SAY:

- "I hope you don't mind, but I like to listen to heavy metal while I'm fishing."
- "If you get thirsty, the cooler is full of bottled water."
- "I was pretty sure I had a roll of toilet paper here somewhere."
- "Here, let me show you a better way to make that cast."

A FEW MORE OBSERVATIONS:

The lie we tell ourselves and others: "It's just great to be out fishing on a fine day like this even if we don't catch anything."

What every fisherman believes: "Those guys in the next boat are no good."

Complete TV fishing show script uttered every time a fish is caught, regardless of its size: "Wow, what a beautiful fish."

Optional TV fishing show ad-lib: "Wow, that sure is a beautiful fish."

Good feeling: Releasing a whopper largemouth in public water knowing that there is almost no chance you'll ever catch it again.

Better feeling: Releasing a whopper largemouth in a private pond where no one else but you has permission to fish.

Cherished injury: Thumb ragged from lipping bass.

Best time to be on the water: Late spring dawn with steaming cup of coffee on the boat seat beside you.

Second best time to be on the water: All other times.

KAREN DOODY

Bees on a Sunflower

OUTDOOR MOMENT

IN THE SEPTEMBER · OCTOBER ISSUE

MELISSA McGAW / NCWRC

BLOWTOAD MADNESS
In spring and fall, blowtoad devotees seek to fill their coolers with the Northern puffer.

75 AND STRONG
One of the most important pieces of wildlife legislation ever enacted, the Federal Aid in Wildlife Restoration Act, celebrates its 75th anniversary this year.

ANIMAL MAGNETISM
The why and when are relatively simple, but the how of animal migrations is still being unlocked.

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